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WRIGHT STATE UNIVERSITY



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**undergraduate catalog
2008-2010**

Important Numbers

All phone numbers in area code 937 unless otherwise noted

General Information

Information Desk

775-5740 E147 Student Union

Telephone Registration: Raider Express

775-4400

Offices and Facilities

Admissions

Undergraduate Admissions, Office of

775-5700 E148 Student Union

Graduate Admissions

775-2976 E344 Student Union

International Student Programs

775-5745 E190 Student Union

School of Medicine

775-2934 210 Medical Sciences Bldg.

School of Professional Psychology

775-3492 110 Health Sciences Bldg.

Affirmative Action Programs

775-3207 436 Millett Hall

Alumni Relations

775-2620 108 Allyn Hall

Asian, Hispanic, and Native American Center

775-2798 154 Millett Hall

Athletics

775-2771 356 Nutter Center

Bolinga Black Cultural Resources Center

775-5645 140 Millett Hall

Bookstore

775-5600 E182 Student Union

Bursar, Office of the

775-5650 E236 Student Union

Career Services

775-2556 E334 Student Union

Counseling and Wellness Services

775-3407 220 Frederick A. White Health Center

Disability Services

775-5680 E186 Student Union

Educational Resource Center

775-2878 116 Allyn Hall

Financial Aid, Office of

775-5721 E136 Student Union

Frederick A. White Health Center

775-4580 Frederick A. White Health Center

Honors Program

775-2660 243 Millett Hall

Housing (Office of Residence Services)

775-4172 Forest Lane Community Building

Parking Services

775-5690 E138 Student Union

Registrar, Office of the

775-5588 E244 Student Union

Student Activities, Office of

775-5570 W012 Student Union

Student Employment, Office of

775-2326 E334 Student Union

Student Health Services

775-2552 118 Frederick A. White Health Center

Student Union Administrative Office

775-5522 E005 Student Union

Union Activities Board

775-5500 W028 Student Union

University College

775-5750 180 University Hall

University Libraries

Fordham Health Sciences Library

775-2003 125 Medical Sciences Bldg.

Paul Laurence Dunbar Library

775-4125, Hours

775-2525, Circulation

Veterans Affairs, Office of

775-5550 E244 Student Union

Women's Center

775-4524 148 Millett Hall

Wright State Police

775-2111 118 Campus Services Building

Colleges and Schools

Boonshoft School of Medicine

775-3010 114 Medical Sciences Bldg.

College of Education and Human Services

775-2821 415 Allyn Hall

College of Engineering and Computer Science

775-5001 405 Russ Engineering Center

College of Liberal Arts

775-2225 163 Millett Hall

College of Science and Mathematics

775-2611 134 Oelman Hall

Raj Soin College of Business

775-2437 110 Rike Hall

School of Graduate Studies

775-2976 E344 Student Union

School of Professional Psychology

775-3490 117 Health Sciences Bldg.

University College

775-5750 180 University Hall

WSU-Miami Valley College of Nursing and Health

775-3131 160 University Hall

Wright State University-Lake Campus

775-8304, 1-800-237-1477, 419/586-0300

100 Dwyer Hall, 7600 State Route 703, Celina, Ohio 45822



The New



WRIGHT STATE UNIVERSITY

U N D E R G R A D U A T E

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CONTENTS

Wright State University.....	9
University Aim Statement	10
Mission Statement.....	10
University Ethics Statement.....	10
Diversity Statement.....	10
Wright State Today	11
Innovation Is in the Air	11
Personal Attention From Faculty	11
Accreditation.....	11
National Recognition	11
Student Life at Wright State.....	12
There's Plenty to Do	12
Go, Raiders!.....	12
Diversity Enriches Campus Life.....	12
Some of the Best Campus Housing	13
Community Partnerships Offer Real-World Experience.....	13
The Lake Campus	13
Wright State Snapshot.....	13
Academic Programs.....	15
Colleges and Schools.....	16
Lake Campus	16
University College	16
Raj Soin College of Business.....	16
College of Education and Human Services	16
College of Engineering and Computer Science.....	17
College of Liberal Arts.....	17
College of Science and Mathematics.....	17
Wright State University—Miami Valley College of Nursing and Health.....	18
Minors	18
Certificates	18
The School of Graduate Studies	18
Boonshoft School of Medicine	19
The School of Professional Psychology	19
Alternative Academic Programs.....	19
University Honors Program.....	19
Preprofessional Programs	20
Officer Training/ROTC.....	21
Cooperative Education.....	22
Interdisciplinary Study.....	22
Consortium.....	22
Student Exchange and Study Abroad.....	22
Learning English for Academic and Professional Purposes (LEAP).....	23
University Libraries.....	23
Paul Laurence Dunbar Library.....	23
The Fordham Health Sciences Library	23
Other Services.....	24
Computer Resources.....	24
Student Life	25
Student Services	26
Disability Services	26
University Center for International Education.....	26
Career Services	27
Counseling and Wellness Services.....	27
Veterans Affairs.....	27

Student Health Services	27
Student Legal Services.....	27
The Wright State University Police Department	28
Parking and Transportation	28
Bolinga Black Cultural Resources Center	28
Women's Center.....	28
Asian/Hispanic/Native American Center.....	28
Facilities	29
Student Union	29
Campus Housing.....	29
Dining Services.....	29
Co-Curricular Activities.....	29
Campus Recreation	29
Athletics	30
Music.....	30
Cultural Activities	30
Organizations and Activities	30
Admission, Advising, and Registration	33
Admission.....	34
High School Preparation	34
Advanced Placement.....	34
Degree-Seeking Students	34
Wright State University's Transfer Module	38
Returning Students.....	40
Other Admission and Enrollment Categories	40
Financial Aid.....	40
Scholarships	41
Grants.....	46
Loans.....	46
Student Employment.....	46
Registration	46
Bursar.....	47
Paying Fees	47
Wright1 Cards	48
Summary of Services and Office Phone Numbers.....	48
Academic Standards and Requirements.....	49
Requirements for a Bachelor's Degree.....	50
Writing Across the Curriculum (WAC)	50
Second Degrees.....	51
Graduating with Latin Honors	51
Applying for Degrees.....	52
Scholastic Policies.....	52
Grading System.....	52
Grades for Writing Intensive Courses in Writing Across the Curriculum	53
Academic Standing	53
Petitioning for Exceptions.....	54
Repeating and Auditing Courses.....	54
Dismissal and Readmission	55
General Education Requirements	57
General Education at Wright State.....	58
Writing Across the Curriculum (WAC) in General Education.....	58
General Education Substitutions.....	58
Honors Sections	58

CONTENTS

General Education Program..... 59
Area I—Communication and Mathematical Skills..... 59
Area II—Cultural Social Foundations 59
Area III—Human Behavior (RS)..... 59
Area IV—Human Expression (RS) 60
Additional Courses From Areas II, III, and IV 60
Area V—Natural Science (RS)..... 60
Area VI—College Component (RS; WI; T) 61
General Education Learning Objectives 62

University College 63
Enhancing Students' Success 64
Academic Advising and Transfer Services..... 64
Developmental Education 65
University Writing Center..... 65
Tutoring Services..... 65
Mathematics Learning Center 65
First Year Experience 65
Placement Testing 65
New Student Enrollment..... 66
Summer On-Campus Advising and Registration (SOAR)..... 66
Learning Communities..... 66

Choosing Courses..... 66
Meeting With an Advisor..... 66
Course Registration Tools 67
First-Year Courses..... 67
English Courses 67
Math Courses 67
Writing Across the Curriculum 67
Courses Required to Enter a Major..... 67
Entering a Major 67
Still Deciding on a Major?..... 67
Math and Statistics Sequences 68

Exploring Majors and Careers..... 69
Summary of Program Admission Requirements 69

Raj Soin College of Business 71
Admissions and Advising 72
Degrees and Areas of Study 73
Student Organizations 74
Departments/Major Programs..... 75
Required Courses for Majors in Business..... 75
Accountancy 76
Economics..... 77
Finance and Financial Services..... 77
Information Systems and Operations Management..... 78
International Business..... 80
Management..... 80
Marketing..... 81

Education and Human Services..... 83
Admissions, Retention, and Advising..... 85
Degrees and Areas of Study 90
Recommendation for Licensure..... 92
Student Organizations 93
Programs of Study..... 94

Athletic Training	94
Biological Sciences Education.....	94
Business Education: Integrated.....	95
Chemistry Education.....	95
Early Childhood Education.....	95
Earth Science Education	95
English Education	96
General Sciences Education.....	96
Health Education and Physical Education Multi-Age	96
History Education	96
Integrated Business Education.....	96
Marketing Education.....	96
Mathematics Education.....	97
Middle Childhood Education.....	97
Modern Languages Education	98
Music Education	98
Organizational Leadership	98
Physics Education	98
Political Science Education.....	99
Psychology/Sociology Education	99
Sign Language Interpreting.....	99
Rehabilitation Services	99
Science Education	100
Social Studies Education.....	100
Visual Arts Education	100
Career and Technical Education	100

Engineering and Computer Science 101

Admissions and Advising	102
Degrees and Areas of Study	103
Student Organizations	104
Biomedical Engineering.....	104
Computer Engineering	105
Computer Science	107
Electrical Engineering.....	111
Engineering Physics.....	113
Industrial and Systems Engineering.....	114
Mechanical and Materials Engineering	115

Liberal Arts..... 119

Admissions and Advising	120
Degrees and Areas of Study	121
Student Organizations	123
African and African American Studies	123
Anthropology	124
Art and Art History	124
Classics	126
Communication.....	127
Criminal Justice	129
Dance	130
Economics.....	130
English Language and Literatures	130
History.....	134
International Studies	135
Liberal Studies	136
Modern Languages.....	137
Music.....	140
Philosophy.....	144
Political Science.....	145

CONTENTS

Religion.....	147
Selected Studies	148
Social Science Education	149
Social Work	149
Sociology and Anthropology	150
Theatre, Dance, and Motion Pictures.....	152
Urban Affairs and Geography	157
Women's Studies.....	161
Nursing and Health.....	165
Admissions and Advising	166
Student Organizations	167
Degree Requirements.....	167
Science and Mathematics	169
Admissions and Advising	170
Degrees and Areas of Study	170
Student Organizations.....	171
Biochemistry and Molecular Biology	171
Biological Sciences.....	172
Chemistry.....	178
Earth and Environmental Sciences	181
Integrated Sciences	184
Mathematics and Statistics.....	185
Neuroscience, Cell Biology and Physiology	189
Physics	190
Psychology	194
Lake Campus.....	197
The Lake Campus	198
Services.....	202
Student Organizations and Activities.....	203
Academic Programs	204
Technical Associate Degree Programs.....	208
Certificates	211
Course Descriptions	213
Technical Course Descriptions.....	347
Faculty and Officers.....	367
University Officers.....	368
A-Z Faculty	369
University Faculty Officers.....	396
Appendix.....	397
Criteria for Ohio Residency	398
Notice to Students	400
Accreditation and Membership.....	401
Wright State University Report on Quality of Teacher Preparation	402
Index.....	407

ACADEMIC CALENDARS

Fall Quarter 2007

September 4–November 17, 2007

September 4, Tuesday/First Day of Class
(Labor Day is Monday, September 3)
November 10, Saturday/Last Day of Class
November 12, Monday/Veterans' Day Observed
(University Closed)
November 13–17, Monday–Saturday/Final
Examinations
November 17, Saturday/Fall Commencement

Winter Quarter 2008

January 7–March 22, 2008

January 7, Monday/First Day of Class
January 21, Monday/Martin Luther King Jr.
Day (University Closed)
March 15, Saturday/Last Day of Class
March 17–22, Monday–Saturday/Final
Examinations

Spring Quarter 2008

March 31–June 14, 2008

March 31, Monday/First Day of Class
May 26, Monday/Memorial Day (University Closed)
June 7, Saturday/Last Day of Class
June 9–14, Monday–Saturday/Final
Examinations
June 14, Saturday/Spring Commencement

Summer Quarter 2008

June 16–August 21, 2008

June 16, Monday/First Day of Class,
Terms A and C
July 4, Friday/Independence Day Observed
(University Closed)
July 17, Thursday/Last Day of Class, Term A
July 21, Monday/First Day of Class, Term B
August 21, Thursday/Last Day of Class,
Terms B and C

Proposed 2008–2009*

Fall Quarter 2008

September 8–November 22, 2008

September 8, Tuesday/First Day of Class
November 11, Tuesday/Veterans' Day (No
Classes)
November 15, Saturday/Last Day of Class
November 17–22, Monday–Saturday/Final
Examinations
November 22, Saturday/Fall Commencement

Winter Quarter 2009

January 5–March 21, 2009

January 5, Monday/First Day of Class
January 19, Monday/Martin Luther King Jr.
Day (University Closed)
March 14, Saturday/Last Day of Class
March 16–21, Tuesday–Saturday/Final
Examinations

Spring Quarter 2009

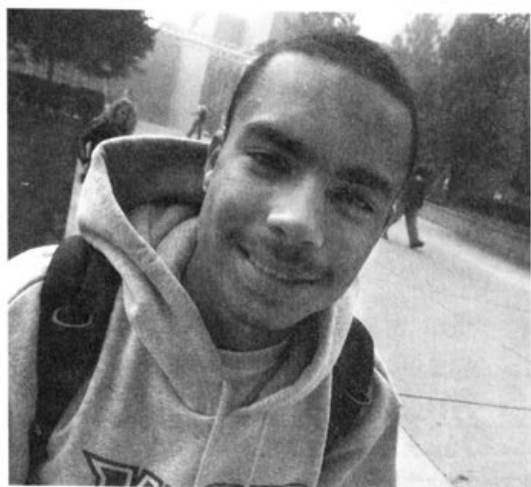
March 30–June 13, 2009

March 30, Monday/First Day of Class
May 25, Monday/Memorial Day (University
Closed)
June 6, Saturday/Last Day of Class
June 8–13, Monday–Saturday/Final
Examinations
June 13, Saturday/Spring Commencement

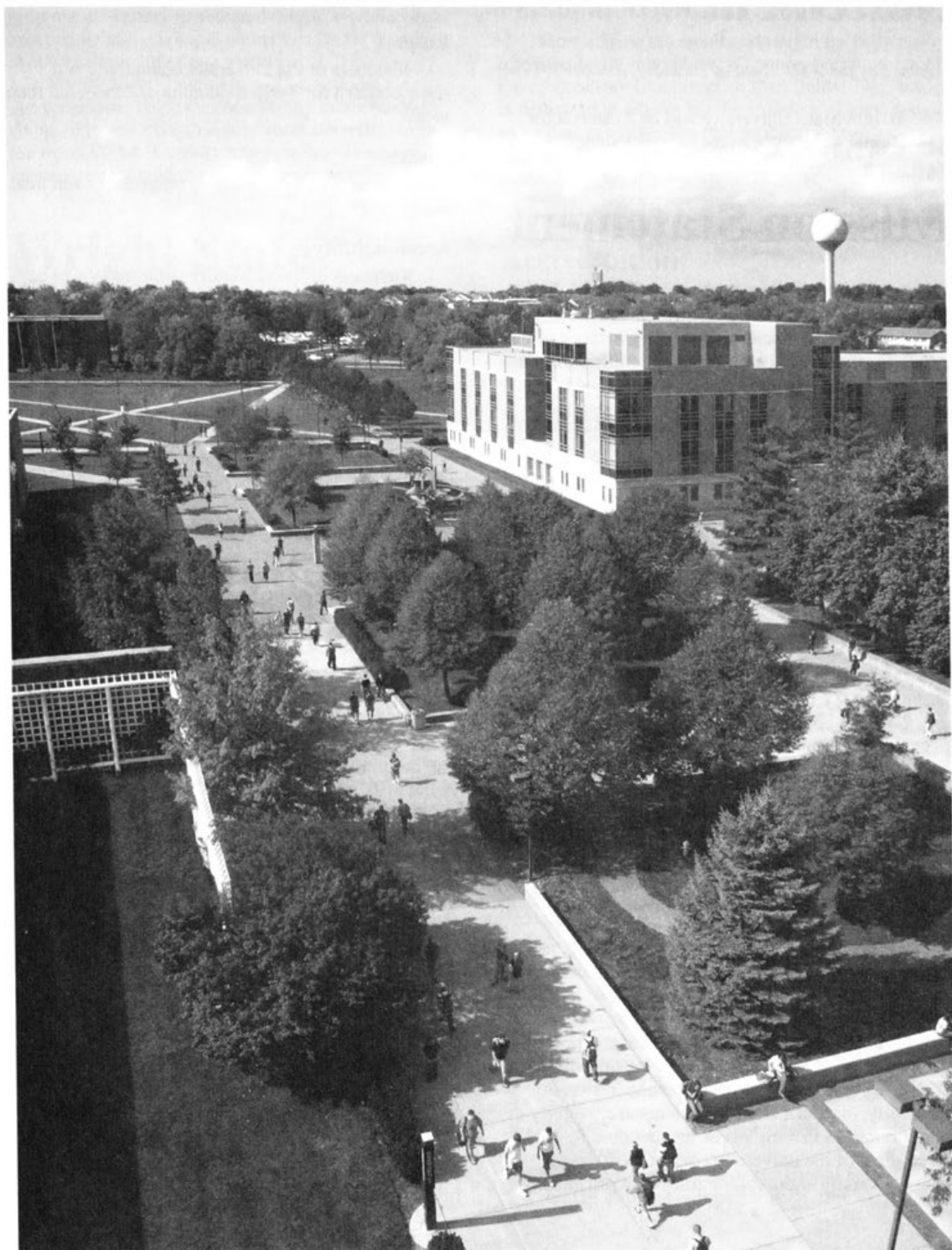
Summer Quarter 2009

June 15–August 20, 2009

June 15, Monday/First Day of Class, Terms A
and C
July 3, Friday/Independence Day (University
Closed)
July 16, Thursday/Last Day of Class, Term A
July 20, Monday/First Day of Class, Term B
August 20, Thursday/Last Day of Class, Terms
B and C



WRIGHT STATE UNIVERSITY



University Aim Statement

Adopted by the WSU Board of Trustees December 3, 1996.

Wright State University will be a catalyst for educational excellence in the Miami Valley.

Mission Statement

Adopted by the WSU Board of Trustees December 3, 1996.

Wright State University will be a catalyst for educational excellence in the Miami Valley, meeting the need for an educated citizenry dedicated to lifelong learning and service. To those ends, as a metropolitan university, Wright State will provide: access to scholarship and learning; economic and technological development; leadership in health, education, and human services; cultural enhancement; and international understanding while fostering collegial involvement and responsibility for continuous improvement of education and research.

University Ethics Statement

Adopted by the WSU Board of Trustees March 28, 1997.

Wright State University's goal of excellence and its dedication to innovation in teaching, research, and service rests upon an individual and a collective commitment to ethics. The purpose of this statement is to provide general guidelines for strengthening the integrity of the university. It sets forth basic principles for enabling the university to accomplish its mission and serve the public interest in an ethical way.

This statement also identifies a basic process for integrating these principles into the institution's culture. The university expects the administration, the faculty, the staff, and the students to exemplify these principles in their words and actions. To guide the conduct of the university community, Wright State University endorses the following principles:

Honesty

Members of the university community will be guided in all their activities by a high regard for truth.

Respect

Members of the university community will show concern for the individuality of others and their ideas.

Justice

Members of the university community will treat others fairly.

Accountability

Members of the university community will be responsible stewards of the public trust.

To integrate these principles into the institution's culture and to encourage ethical conduct, Wright State University is committed to an ongoing process that will involve the creation of a standing advisory and resource committee to support ongoing formal ethics education and to assist the university in developing ethics policies and procedures.

Diversity Statement

Adopted by the WSU Board of Trustees March 28, 1991.

Wright State University celebrates diversity. Our daily life is made rich by the diversity of individuals, groups, and cultures. The interplay of the diverse stimulates creativity and achievement in all facets of our existence.

Respect, tolerance, and goodwill are the keystones to enjoying the diversity of our world. We are all linked to each other in a world created for all of us to share and enjoy. Each member of humanity has a potential contribution to make to the whole. It is our duty to encourage and promote that contribution.

Wright State University is committed to achieving an intellectual, cultural, and social environment on campus in which all are free to make their contribution. We will achieve an environment in which every student may think, and learn, and grow—without prejudice, without intimidation, and without discrimination. We will achieve an environment in which personal dignity and respect for the individual are recognized by all.

Wright State University promotes the acceptance and appreciation of every individual regardless of race, gender, age, ethnicity, ability or disability, sexual orientation, socioeconomic status, religious affiliation, or national origin. We encourage appropriate activities and events that foster learning about the diversity of our world.

Wright State University will be a model for our geographic region, exemplifying that a human community can exist that celebrates diversity, enjoys the richness that diversity brings to our lives, and grows stronger with every new member.

Wright State Today

Wright State University will help your dreams take flight. Named after the inventors of powered flight—Orville and Wilbur Wright—the university carries on their tradition of innovation. And with more than 100 undergraduate degrees and nearly 50 Ph.D., master's, and professional degrees, the sky's the limit.

Come check out the beautiful 557-acre wooded main campus yourself. You'll find state-of-the-art facilities, a 200-acre biological preserve, and some of the newest, most modern student housing anywhere. Spread your wings with more than 150 student clubs and organizations.

In addition, the Wright State University–Lake Campus, a branch campus located between St. Marys and Celina, Ohio, offers associate and pre-baccalaureate degrees, and limited baccalaureate and master's degree programs.

Whether it's preparing students to take their place in our ever-changing world, conducting research that can improve our lives, or partnering with local communities and businesses, Wright State University is making an impact, both locally and globally.

Innovation Is in the Air

A rich and dynamic community of nearly 17,000 students, Wright State is a place where tomorrow takes flight. Located 12 miles northeast of Dayton, Ohio, Wright State is a nationally accredited state university with an impressive range of study. Its six colleges and three schools, including schools of medicine and professional psychology, offer opportunities for discovery and growth.

A full-size replica of the 1903 Wright Flyer hangs in the Dunbar Library atrium as a symbol of the Wright brothers' genius and innovation. The library is home to one of the world's most complete

collections of the Wright brothers' papers and memorabilia.

Personal Attention From Faculty

Most classes are small and taught by fully affiliated faculty members, 80 percent of whom hold the most advanced degrees in their fields. The faculty is dedicated to advancing the frontiers of knowledge, as well as applying it to real problems. Students gain hands-on experience through a variety of community-based programs, cooperative education, internships, service learning, and research projects.

Accreditation

The main accreditation agency for Wright State is the North Central Association of Colleges and Schools. A full listing of accreditations and memberships can be found in the Appendix.

National Recognition

Our students work hard and achieve national recognition. They're gaining valuable skills and experience by competing with some of the best schools in the nation—and coming out on top!

- National Model UN Conference, top awards for 28 years
- Outstanding individual achievement for playwriting and composition from the American College Theatre Festival
- Student projects presented to the Geological Society of America
- Top nursing student in the Eastern Region of the United States Cadet Command
- Outstanding Student Teacher and Outstanding Cooperating Teacher for Ohio
- National Intercollegiate Ethics Bowl, six years in the top 10, 2002 winner
- For two straight years, Wright State's student chapter of the Society for Human Resource Management (SHRM) was named one of the top 10 student chapters in the nation from among 430 SHRM chapters.
- A Lake Campus student was named outstanding two-year business student in the nation.
- Two Ph.D. students earned \$100,000 EPA fellowships.
- For the fifth consecutive year, Wright State students placed in the top three in the nationwide case competition sponsored by the Society for the Advancement of Management.
- WSU Army cadet named tapped with a National Order of Merit award.
- Engineering students won national aero design model airplane competition.

Campus Life

Student Life at Wright State

Wright State has a diverse mixture of students with various educational goals and interests. The majority of our students—77 percent or 13,000—are undergraduates, and of those, almost 11,000 are full time. Although the majority of these students come from southwestern Ohio, many also come from other parts of Ohio, from almost every state in the nation, and from 66 other countries. Almost 3,000 students live in campus housing, in either traditional dormitory-style rooms, suite-style rooms, or apartments, all offering direct Internet connections. Over 1,600 freshman students chose to live on campus in fall 2006.

Many of our students are older (mean age is slightly over 25 years) and, in addition to their academic work, have other major responsibilities such as a family and/or full-time job. Many of these students attend classes in the evening, a time that sees almost as much campus activity as during the day. Regardless of background and career goals, our students provide the basis for a campus rich in cultural and intellectual diversity.

Both commuting and residential students make for an active campus life. Over 150 student clubs and organizations provide recreational, professional, and entertainment activities. Also popular are the university's two theatres and concert halls, and the Student Union, which has extensive recreational facilities, including a fitness center, a small gymnasium, racquetball and squash courts, climbing wall, and an Olympic-size indoor pool.

Wright State students have distinguished themselves academically, both on the state and national level. For example, Wright State students compete with 200 colleges and universities from 15 different countries that debate each year at the Model United Nations program held in New York City and now hold the longest winning streak on record—28 years. The Ohio Society of Professional Engineers awarded our student team first place in a statewide senior design showcase. Wright State is the only four-time winner of the National Student Case Competition sponsored by the Institute of Management Accountants.

In recognition of its innovations in teaching and research, the Department of Mathematics and Statistics has received Academic Challenge Grants from the Ohio Board of Regents and highly selective external funding awards from the National Science Foundation and other federal

agencies. In addition, undergraduate students in the Department of Mathematics and Statistics compete each year in the William Lowell Putnam Mathematical Competition.

The student is the focus of attention at Wright State University. Although Wright State students do not easily fall into specific categories, all are valued for their unique talents and contributions. In a supportive learning environment, Wright State faculty challenge their students, encouraging them to realize their potential, to reach their goals, and to fulfill their dreams. As a result, Wright State continues to attract achievement-oriented students who are eager to learn.

There's Plenty to Do

At Wright State, we're active like you. Our students are diverse, and our campus activities reflect a broad spectrum of interests and outlets. With more than 150 clubs and organizations, there's something for everyone.

Recreate the Middle Ages by joining the Medieval Club. If you have political aspirations, get involved in Student Government. If you don't mind a few bumps and bruises, join the rugby team. Choose from 18 sororities and fraternities that focus on scholarship, service, and fun.

Hang out at the Student Union's extensive recreational facilities, including a fitness center, gym, racquetball and squash courts, a climbing wall, and an Olympic size indoor pool. Outdoor Recreation offers unique and exciting opportunities to go camping, canoeing, rock climbing, white-water rafting, skiing, horseback riding, scuba diving, and more! Bicycles, backpacks, kayaks, skis, and other equipment are available to students.

Go, Raiders!

Wright State offers 16 Division I intercollegiate athletic programs, and many students participate in intramural sports programs. The Ervin J. Nutter Center, a multipurpose sports and entertainment complex, seats 10,632 for Wright State Raiders basketball games and up to 12,000 for top-name entertainers and shows.

Diversity Enriches Campus Life

At Wright State, we believe that welcoming students from diverse cultures strengthens and enriches the entire campus community. Bringing these students together with an active campus life creates a rich intellectual and social experience—a complete university experience.

Wright State is a national leader in accommodating the needs of students with disabilities. Most of the 24 campus buildings are connected by a unique underground tunnel system.

Some of the Best Campus Housing

While living on campus is not a requirement, about 60 percent of all first-year students choose to do so. Almost 3,000 students live in attractive residence halls on or adjacent to campus. Year after year, they say how fantastic their campus living experience has been, and how great it was to stay in new, modernly equipped rooms that have all the comforts of home. You'll find nice furniture, cable TV, air-conditioning, and Internet hook-ups. Plus, all students—even first-year students—may have a car on campus.

Community Partnerships Offer Real-World Experience

Wright State provides its students with unique opportunities to help solve real-world problems by addressing the educational, cultural, social, and economic needs of the Miami Valley. Students obtain relevant hands-on learning experiences through the university's link to area corporations, community programs, health and social service agencies, and government organizations. This blending of academia with the larger community provides benefits for both.

The Lake Campus

Located on 173 scenic acres on the north shore of Grand Lake St. Marys, the Lake Campus of Wright State University maintains close ties to the business and cultural development of the community. The Lake Campus fosters education in the community while maintaining the highest possible levels of instruction, scholarly activity, professional service, and community involvement.

Easily accessible to residents of Auglaize, Mercer, Van Wert, and northern Darke Counties, the Lake Campus offers smaller class sizes and lower tuition, making it an ideal campus to start a college education. Students who need or want a more nurturing and less competitive educational atmosphere can thrive at the Lake Campus. Students benefit from personal attention and opportunities for leadership and personal growth. For more information on the Lake Campus, visit <http://www.wright.edu/lake/>, or phone (419) 586-0324 or 1-800-237-1477.

Wright State Snapshot

The University: Nationally accredited, state university with 109 undergraduate degrees and 46 graduate or professional degrees

Founded: 1964. Granted full university status in 1967

Location: Main campus, 12 miles northeast of Dayton, Ohio. Lake Campus, near St. Marys and Celina, Ohio

Enrollment: Approximately 13,000 undergraduate students and 4,000 graduate, professional, or doctoral students (Fall 2006)

Student Body: Approximately 93 percent Ohio residents, 15 percent minority students, and international students representing 69 foreign countries

First-Year Student Profile:

(Fall 2006)

New first-year students, 2,355

Mean high school grade point average, 3.09

ACT composite mean score, 20.80

SAT composite mean score, 995.8

Student Organizations: More than 150

Athletics: The Wright State Raiders compete in the NCAA Division I Horizon League in baseball, basketball, cross country, golf, soccer, softball, swimming and diving, tennis, track, and volleyball

Faculty: 831; 80 percent hold the highest degree in their fields

Average Class Size: 25

Student-Faculty Ratio: 20:1

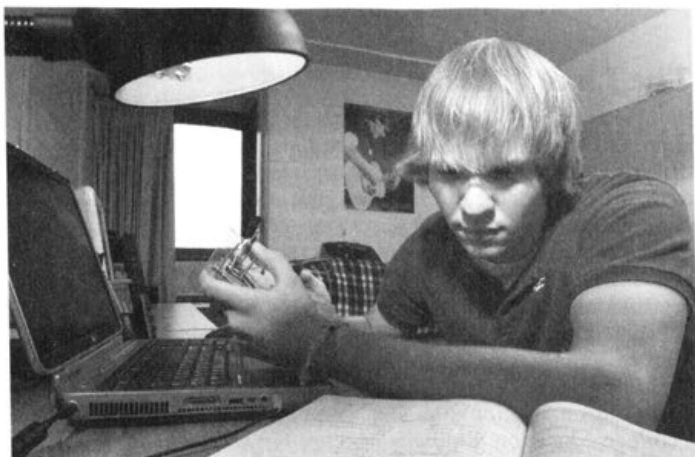
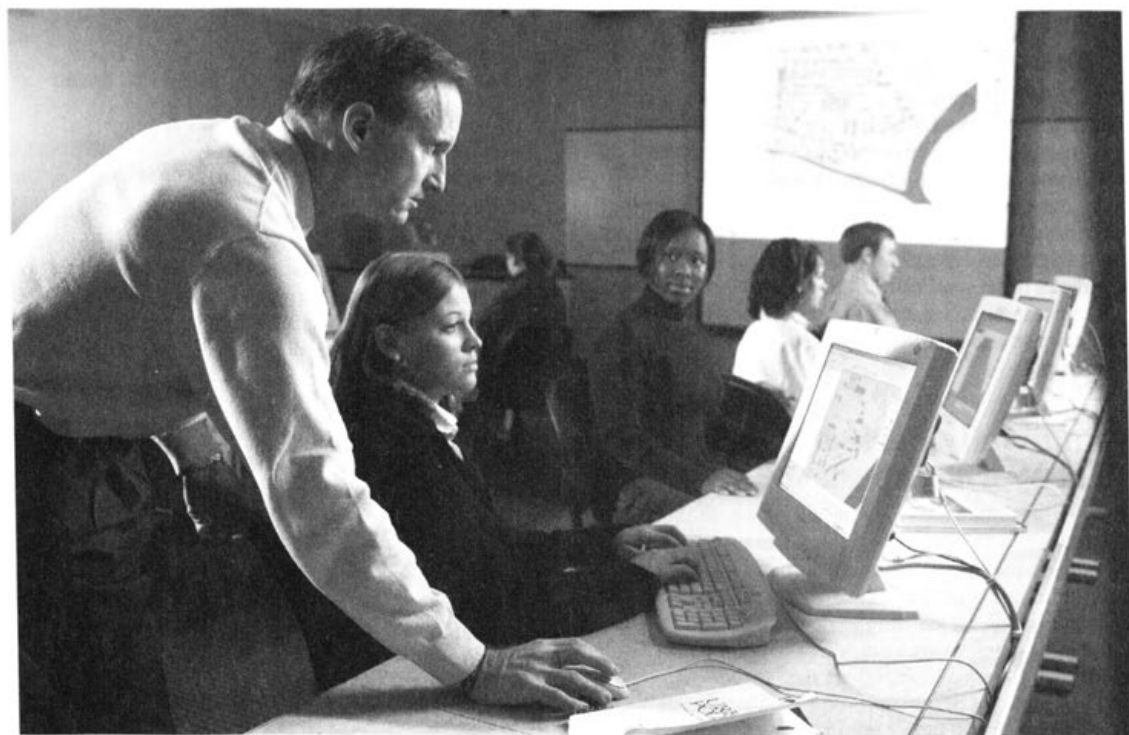
Libraries: The Paul Laurence Dunbar Library contains over 703,000 bound volumes, 440,000 government documents, and 3,200 periodical subscriptions. The Fordham Health Sciences Library contains over 135,000 bound volumes and 1,000 periodical subscriptions. Electronic resources include more than 140 research databases, 5,700 electronic journals, and 22,000 e-books.

Computer Resources: State-of-the-art computer labs are located throughout campus. World Wide Web access is available to all students and faculty. Technical support is available 11 hours a day.

Residential Facilities: Hamilton Living/Learning Community (double and triple rooms); The Village (efficiency, deluxe efficiency, one- and two-bedroom apartments); The Woods (double and quad suites); Honors (double suites); Forest Lane Apartments (two-bedroom units); College Park Apartments (four bedrooms, two baths)

Financial Assistance: In 2006-07, 80 percent of all students were awarded some form of financial aid or scholarship.

Scholarships: Wright State offers many merit-based scholarships, including academic performance, talent, and competitive honors.



ACADEMIC PROGRAMS



Colleges and Schools

Wright State University offers undergraduate programs in the Raj Soin College of Business and the Colleges of Education and Human Services, Engineering and Computer Science, Liberal Arts, Nursing and Health, and Science and Mathematics, and through the Wright State University-Lake Campus. The University College offers programs and advising for virtually all Dayton campus undergraduate students, including transfer students. Graduate programs are offered through the School of Graduate Studies. The Schools of Medicine and Professional Psychology offer professional and other postbaccalaureate programs.

Wright State grants these baccalaureate degrees: Bachelor of Arts (B.A.), Bachelor of Arts in Computer Science (B.A.C.S.), Bachelor of Fine Arts (B.F.A.), Bachelor of Music (B.Mus.), Bachelor of Science (B.S.), Bachelor of Science in Biomedical Engineering (B.S.B.E.), Bachelor of Science in Business (B.S.B.), Bachelor of Science in Clinical Laboratory Science (B.S.C.L.S.), Bachelor of Science in Computer Engineering (B.S.C.E.), Bachelor of Science in Computer Science (B.S.C.S.), Bachelor of Science in Education (B.S.Ed.), Bachelor of Science in Electrical Engineering (B.S.E.E.), Bachelor of Science in Engineering Physics (B.S.E.P.), Bachelor of Science in Industrial and Systems Engineering (B.S.I.S.E.), Bachelor of Science in Materials Science and Engineering (B.S.M.S.E.), Bachelor of Science in Mechanical Engineering (B.S.M.E.), and Bachelor of Science in Nursing (B.S.N.).

Lake Campus

The Lake Campus offers the Associate of Arts and Associate of Science degrees, as well as a variety of two-year Associate of Applied Business, Associate of Applied Science, and Associate of Technical Study degree programs. Selected Bachelor of Science and master's degree programs are also offered.

University College

The University College assists students in transitioning to university life and developing the necessary skills to ensure their entrance into the Wright State college and major of their choice. The University College provides academic advising; tutoring and testing services; a leadership

development program; basic courses in writing, mathematics, and college success strategies; and the First-Year Seminar and learning communities. An academic advising center and mathematics learning center also offer free individualized assistance to students.

Raj Soin College of Business

Bachelor of Science in Business degree programs are offered with majors in accountancy, business economics, finance, financial services, human resource management, international business, management, management information systems, operations management, and marketing. The college also offers a Master of Business Administration degree, a Master of Accountancy degree, a Master of Science in Social and Applied Economics degree, a Master of Science in Logistics and Supply Chain Management, and a Master of Science in Information Systems.

Baccalaureate Programs in Business and Administration

Accountancy (B.S.B.)
Business Economics (B.S.B.)
Finance (B.S.B.)
Financial Services (B.S.B.)
Human Resource Management (B.S.B.)
International Business (B.S.B.)
Management (B.S.B.)
Management Information Systems (B.S.B.)
Marketing (B.S.B.)
Operations Management (B.S.B.)

College of Education and Human Services

The College of Education and Human Services assumes responsibility for one of the university's primary functions: preparing teachers, educational leaders, and professionals in health, education, and human services. Many programs within the college lead to licensure by the Ohio Department of Education. The Departments of Educational Leadership, Teacher Education, Health, Physical Education, and Recreation, and Human Services prepare licensed and nonlicensed leaders for public and private schools, industry, and community agencies. These leaders include public school teachers, athletic trainers, principals, curriculum supervisors, central office administrative specialists, school guidance counselors, personnel counselors, rehabilitation specialists, community and mental health counselors, sign language interpreters, and student affairs (higher education) practitioners. The Bachelor of Science in Education degree and

the Bachelor of Science degree with majors in rehabilitation and organizational leadership are offered. The college also offers programs leading to the Master of Arts, Master of Education, Master in Rehabilitation Counseling, Master of Science, and Educational Specialist degrees.

Baccalaureate Programs in Education and Human Services

Athletic Training (B.S.Ed.)
 Career and Technical Education (B.S.Ed.)
 Early Childhood Education (Pre-K-3, Ages 0-8) (B.S.Ed.)
 Health Education and Physical Education (Multi-Age, Pre-K-12, Ages 3-21) (B.S.Ed.)
 Integrated Business Education (B.S.Ed.)
 Marketing Education (B.S.Ed.)
 Middle Childhood Education, (Grades 4-9, Ages 8-14; licensure requires completion of a graduate level program) (B.S.Ed.)
 Organizational Leadership (B.S.)
 Rehabilitation Services (B.S.)
 Sign Language Interpreter (B.S.)

College of Engineering and Computer Science

The college offers programs leading to Bachelor of Arts and Bachelor of Science degrees. Programs of study include biomedical engineering, computer engineering, computer science, electrical engineering, engineering physics, industrial and systems engineering, materials science and engineering, and mechanical engineering. Each of the programs includes cooperative education opportunities. The college also offers master's degrees and a doctoral degree in engineering, and master's degrees and a doctoral degree in computer science and computer engineering.

Baccalaureate Programs in Engineering and Computer Science

Biomedical Engineering (B.S.B.E.)
 Computer Engineering (B.S.C.E.)
 Computer Science (B.S.C.S.)
 Computer Science (B.A.C.S.)
 Electrical Engineering (B.S.E.E.)
 Engineering Physics (B.S.E.P.)
 Industrial and Systems Engineering (B.S.I.S.E.)
 Materials Science and Engineering (B.S.M.S.E.)
 Mechanical Engineering (B.S.M.E.)

College of Liberal Arts

The college offers programs in the fine arts, social sciences, and the humanities, which lead to the Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Music, and Bachelor of Science degrees. Many different career orientations are available through

liberal arts studies. The college also offers master's degrees.

Baccalaureate Programs in Liberal Arts

Acting (B.F.A.)
 Acting-Musical Theatre (B.F.A.)
 African and African American Studies (B.A.)
 Anthropology (B.A.)
 Art (B.A., B.F.A.)
 Art Education (B.F.A.)
 Art History (B.A.)
 Classical Humanities (B.A.)
 Communication Studies (B.A.)
 Criminal Justice (B.A.)
 Dance (B.F.A.)
 Economics (B.A.)
 English (B.A.)
 English: Integrated Language Arts (B.A.)
 French (B.A.)
 Geography (B.A., B.S.)
 German (B.A.)
 Greek (B.A.)
 History (B.A.)
 International Studies (B.A.)
 Latin (B.A.)
 Liberal Studies (B.A.)
 Mass Communication (B.A.)
 Modern Languages (B.A.)
 Motion Picture History, Theory, and Criticism (B.A.)
 Motion Picture Production (B.F.A.)
 Music (B.A.)
 Music Education (B.M.)
 Music History and Literature (B.M.)
 Music Performance (B.M.)
 Organizational Communication (B.A.)
 Philosophy (B.A.)
 Political Science (B.A.)
 Religion (B.A.)
 Selected Studies (B.A., B.F.A.)
 Social Science Education (B.A.)
 Social Work (B.A.)
 Sociology (B.A.)
 Spanish (B.A.)
 Theatre Design/Technology/Stage Management (B.F.A.)
 Theatre Studies (B.A.)
 Urban Affairs (B.A., B.S.)
 Women's Studies (B.A.)

College of Science and Mathematics

The college offers programs leading to the Bachelor of Science, Bachelor of Science in Clinical Laboratory Science, and Bachelor of Arts degrees, as well as interdisciplinary programs. The college also offers master's degrees and doctoral degrees.

Baccalaureate Programs in Science and Mathematics

Biological Sciences (B.S., B.A.)
 Biological Sciences Education (B.S., B.A.)
 Chemistry (B.S., B.A.)
 Chemistry Education (B.S.)
 Clinical Laboratory Science (B.S.C.L.S.)
 Earth and Environmental Sciences (B.S., B.A.)
 Earth and Environmental Sciences Education (B.A.)
 Environmental Health Sciences (B.S.)
 Integrated Science Education (B.S.)
 Mathematics (B.S., B.A.)
 Mathematics Education (B.S.)
 Physics (B.S., B.A.)
 Physics Education (B.A.)
 Psychology (B.S., B.A.)

Wright State University–Miami Valley College of Nursing and Health

The program in nursing at Wright State leads to the Bachelor of Science in Nursing degree, which qualifies the graduate for the National Council of State Boards Licensing Examination (NCLEX) required for state licensure as a registered nurse. The college also offers a B.S.N. completion program for registered nurses and a Master of Science program. Baccalaureate Program in Nursing (B.S.N.)

Minors

A minor program is a structured and coherent secondary concentration of study. It gives undergraduates the option of studying a second field of specialization, in addition to a major, as part of their studies at the university. Students interested in pursuing a minor should confer with the appropriate department for details. The university offers minors in the following areas:

African and African American Studies
 Anthropology
 Art History
 Biological Sciences
 Business
 Classical Humanities
 Communication
 Computer Science for Engineers and Scientists
 Computing and Information Technology
 Criminal Justice
 Earth and Environmental Sciences
 Economics
 English
 Environmental Health
 French
 Geography

German
 History
 International Business
 International Studies
 International Trade
 Management
 Management Information Systems
 Marketing
 Materials Science and Engineering
 Mathematics
 Music
 Operations Management
 Philosophy
 Physics
 Political Science
 Psychology
 Rehabilitation Services
 Religion
 Sociology
 Spanish
 Statistics
 Urban Affairs
 Women's Studies

Certificates

The university's main campus offers certificate programs in the following areas: cartography; innovation and entrepreneurship in high technology; comparative development; photogrammetry and remote sensing; gerontology; museum studies; archive administration and records management; nonprofit administration; object-oriented programming; professional and technical writing; teaching English as a foreign language (TEFL); teaching English to speakers of other languages (TESOL); and women's studies. The Wright State University-Lake Campus offers certificates in computer-aided drafting (CAD), management, desktop publishing, word/information processing, micro-computer applications, software applications, PhotoShop design and applications, and graphics/design.

The School of Graduate Studies

The School of Graduate Studies is responsible for more than 40 master's degree programs, a post-master's degree program (Educational Specialist), doctor of philosophy degree programs in biomedical sciences, computer science and engineering, engineering, environmental sciences, and human factors and industrial/organizational psychology, as well as courses for licensure programs in education and courses for various graduate certificate programs. Master's degrees are offered in the following fields of study:

*Master of Accountancy**Master of Arts*

Applied behavioral science, criminal justice and social problems, classroom teacher, counseling, educational administrative specialist, educational leadership, English, history, international and comparative politics, intervention specialist, pupil personnel services, selected graduate studies

Master of Business Administration

Administration of nursing and health care systems, business economics, finance, flexible business, international business, management, innovation and change, management of information technology, marketing, project management

Master of Education

Classroom teacher, educational administrative specialist, educational leadership, intervention specialist, pupil personnel services

*Master of Humanities**Master of Music*

Music education, performance

*Master of Public Administration**Master of Public Health**Master of Rehabilitation Counseling*

Chemical dependency, severe disabilities

Master of Science

Administration of nursing and health care systems, aerospace medicine, anatomy, applied mathematics, applied statistics, biochemistry and molecular biology, biological sciences, chemistry, computer science, counseling, environmental sciences, earth and environmental sciences, human factors and industrial/organizational psychology, logistics and supply chain management, mathematics, microbiology and immunology, nursing, pharmacology and toxicology, physics, physiology and biophysics, selected graduate studies, social and applied economics

*Master of Science in Computer Engineering**Master of Science in Engineering*

Biomedical, electrical, human factors, materials science and engineering, mechanical

Master of Science in Teaching

Earth science, interdisciplinary science and mathematics, physics

Boonshoft School of Medicine

The Boonshoft School of Medicine's

educational program prepares students for graduate medical education (residency training) in their field of choice. Graduates of this four-year program receive the Doctor of Medicine (M.D.) degree.

The School of Professional Psychology

The School of Professional Psychology offers a doctoral program in clinical psychology that prepares students for work as professional psychologists. The program requires approximately five years of study and grants the Doctor of Psychology (Psy.D.) degree.

University Honors Program

The University Honors Program is designed to meet the special needs of a diverse population of academically well-prepared students. First-year students can qualify by meeting two of the following criteria:

- High school GPA of 3.25 or better
- Ranking in the top 10 percent of their graduating class or
- Scoring at or above the 90th percentile on the ACT

Continuing Wright State students and transfer students with a GPA of 3.0 or better are eligible to participate.

The Honors Program is also interested in students who may not quite meet these qualifications but who bring some special contribution or determination to the program. Such students will be permitted to enroll in selected honors courses where they can demonstrate that they merit full participation.

The Honors curriculum offers three types of undergraduate courses: most general education courses are presented in special Honors sections; popular introductory courses in certain majors are offered as Honors courses; and special interdisciplinary courses are offered for sophomores, juniors, and seniors. Honors students also pursue special programs of study in their majors, usually in their junior or senior year. These programs involve independent study with a faculty mentor and culminate in a research report, design project, or senior thesis. Each department, college, or school has its own admissions and performance criteria, which are available for review in the Honors office.

Students may graduate with one of three Honors designations by completing one of the following sets of requirements:

- A. To graduate with the distinction "University Honors Scholar," students must:
 1. complete eight Honors courses with grades of B or better, including: (a) at least one course from the UH 201, 202, 203 sequence; (b) at least three courses that are classified as General Education courses (these may include UH 201, 202, 203); and (c) at least two interdisciplinary seminars (UH 400).
 2. successfully complete a departmental, school, or college Honors program.
- B. To graduate with the distinction "General Studies Honors Scholar," students must complete eight Honors courses (as described above for "University Honors Scholar") with grades of B or better and attain a cumulative GPA of 3.5 or better.
- C. To graduate "With Honors" in their major fields, students must complete a departmental, school, or college Honors program.

Students normally complete the Honors Program by taking three Honors courses their first year, three as a sophomore, one as a junior, and one as a senior. However, students are free to take as many or as few courses as their interest and program requirements permit. All Honors courses are designated as Honors on transcripts, and students who complete the program receive special designations on their transcripts and recognition in the commencement program.

The Honors Program also offers opportunities for social, cultural, and leadership development through participation in the Student Honors Association, Service Learning, the Mideast Honors Association, the National Collegiate Honors Council, and the University Honors Committee. A 384-bed Honors Community residence hall opened in the fall of 2002. It features a faculty member in residence, a classroom, a 25-station computer lab, a big screen tv, a lounge, and other social and study space. Programming will focus on issues and ideas and allow residents to become involved in service floors or theme floors. The Honors Community also houses a convenience store and deli, a coffee shop, and a fitness center.

The Honors Program awards scholarships to both incoming and continuing Honors students. Small grants are available for students working on honors projects, and some financial assistance is available for Honors Program students who wish to study abroad. Interested students should contact the Honors Program office for further information and applications: (937) 775-2660, 243 Millett, honors@wright.edu.

Preprofessional Programs

Premedical and Predental Study

There is no specific preferred major for premedicine or predentistry. Students may choose from a variety of undergraduate majors; however, they need to complete certain required courses for admission. Most applicants major in biology or chemistry, but it is important to choose a major in a field of interest to the student. Numerous majors allow students to take required pre-med courses and use the credits to fulfill electives in the major. In addition, there are numerous recommended courses, primarily in the sciences, that would make students more competitive applicants. Since the competition for admission is so strong, each student needs to maintain a high GPA (approximately a 3.5); do well on the Medical College Admission Test (MCAT), which is generally taken in spring of the junior year; and be active in campus organizations and community volunteer work.

Planning and performance are important. Students should work with an academic advisor to plan the freshman-year class schedule, which would, ideally, include Chemistry 121/125, 122/126, and 123/127, among other courses. A student with Math Placement Level of 3 or lower may be delayed entrance into chemistry courses, so it is important to plan ahead. Beginning their sophomore year, students should meet annually with the premedical advisor to plan their class schedules and make sure that they are taking the required courses. The premedical advisor also can suggest other courses that may help improve a student's performance on the MCAT.

The following courses are required for medical school admission. (Depending on the student's major, they may be taken as part of the degree requirements or in addition to the degree requirements.)

BIO 112 Principles of Human Biology
 BIO 114 Cell Biology and Genetics
 BIO 115 Diversity and Ecology
 CHM 121/125 General Chemistry I
 CHM 122/126 General Chemistry II
 CHM 123/127 General Chemistry III
 CHM 211/215 Organic Chemistry I and lab
 CHM 212/216 Organic Chemistry II and lab
 CHM 213/217 Organic Chemistry III and lab
 PHY 111/101 Physics I and lab
 PHY 112/102 Physics II and lab
 PHY 113/103 Physics III and lab
 ENG 101, 102, and one other writing course
 MTH College Algebra and Trigonometry (MTH 130 and 131 or MTH 134); some schools require calculus (MTH 229, 230, and 231)

Recommended courses include:

BMB 421, 423, and 427 Biochemistry and
Molecular Biology (some schools require one
course)

P&B 301 and 302 Human Physiology

M&I 220 Pathogenic Microbiology

M&I 426 Immunology and Virology

ANT 201 and 202 Human Anatomy

BIO 210, 211, and 212 Molecular Biology, Cell
Biology, and Genetics

PHR 340 Pharmacology

Students who have received Advanced
Placement (AP) credits from their high school
science courses should take additional upper-
level courses in those sciences to demonstrate
proficiency. For example, a student who has
placed out of a whole year of biology (BIO 111,
112, 115) should be sure to take an additional year
of biology courses with labs to demonstrate the
ability to achieve in college-level biology.

Prelaw Study

Prelaw is not a major or degree program, so
students are free to choose from a wide variety
of undergraduate majors. Many different areas of
study can prepare students for law studies. When
choosing a major, students should select an area
in which they have a strong interest and in which
they can do well academically. The prelaw advisor
at Wright State will help plan a personal prelaw
program.

To a large extent, admission to law school
depends on the basic skills that students master
as an undergraduate. The ability to communicate,
reason clearly, and think independently is more
important than the area of a student's major. Many
disciplines help build these skills. Speaking and
writing skills can be sharpened in a history class
as well as in a literature class, and reasoning
ability can be developed in a chemistry lab as well
as in a philosophy seminar.

Competition for admission to law school
is keen, and a student's academic record is one
of the key criteria. A major in political science,
business, history, or other fields connected with
law does not guarantee admission. An excellent
academic record in the sciences, math, languages,
or other areas that are not usually associated with
law may have an equal or even greater appeal to
law schools.

Suggested Courses for Prelaw Study

The following courses can provide a taste of
what the study of law is about and what those who
choose a legal career can expect. Students may
take as many or as few of these courses as they
like. These courses are neither a prelaw program
nor prerequisites for law school, and they do not

relate to the intensive approach used in law school
studies.

ACC 204, 205 Accounting Principles I, II

COM 232 Argumentation and Debate

EC 204 Principles of Microeconomics

EC 205 Principles of Macroeconomics

EC 351 Labor Markets

EC 420 Law and Economics

ENG 240 Intermediate Composition

FIN 310 Financial Management I

FIN 311 Financial Management II

FIN 332 Real Estate Law

FIN 462 Estate Planning

LAW 300 The Legal Environment of Business

LAW 420 Legal Aspects of Managing a Diverse
Workforce

LAW 480 Special Topics in Law

PHL 124 Social Ethics and Values

PHL 211 Introduction to Ethics

PHL 215 Inductive Logic

PHL 223 Symbolic Logic I

PHL 378 Ethics and Medicine

PHL 472 Philosophy of Social Science

PLS 340 Law and Society

PLS 342 Civil Liberties I

PLS 343 Civil Liberties II

PLS 436 Criminal Law

PLS 437 Criminal Procedure

PLS 438 Environmental Law and Policy

PLS 439 Bioethics and Law

PLS 440 Constitutional Law

PLS 442 American Criminal Justice System

PLS 443 Administrative Law Procedure

PLS 471 International Law

PLS 482 Legislative Internship

PLS 484 Prelaw Internship

Officer Training/ROTC

The Army and Air Force offer the Reserve
Officer Training Corps (ROTC) program to all
qualified students. The purpose of ROTC is to
educate selected men and women for positions
of responsibility and afford them the opportunity
to be commissioned as second lieutenants in the
Army or Air Force. The Army also offers the
option for duty in the National Guard or Reserves.

The first two years of both programs have
no military obligation. Each offers a competitive
scholarship program and depending on the
scholarship amount pays the student's tuition,
buys all books, and provides \$200 a month.
Students involved in the Advanced (Army) or
contracted in the Professional Officer (Air Force)
course also receive \$200 a month during the
school year.

Both programs are available to students
with only two or three years remaining in their
degree program. Two-year and compression

programs have been established to make the ROTC program available to freshmen and sophomores or to juniors and seniors who will be enrolling in graduate study. Through a special program, advanced placement credit may be given to veterans, JROTC students, and sophomore students who attend a five-week AROTC Basic Camp. Graduate students with two years of school remaining are eligible for both ROTC programs.

The Army program is administered in two parts. The basic course emphasizes practical leadership and management skills that are equally applicable to both military organizations and private industry. The advanced course is designed to prepare students to be commissioned officers by including practical study in tactics, training, management, leadership techniques, and the exercise of command. During the summer quarter between the junior and senior years, students attend a five-week ROTC Advanced Camp that provides them with the opportunity to apply the leadership and technical training received in the classroom. While at camp, cadets are paid half of the salary of a second lieutenant.

The Air Force ROTC programs are the General Military Course (GMC) and Professional Officer Course (POC). The GMC introduces students to the Air Force and its history through one hour of class and two hours of leadership laboratory each week. The POC consists of courses in management, leadership, American defense policy, and introduction to command. Six courses, involving three hours of class and two hours of leadership laboratory each week, are required. Summer field training, which emphasizes leadership development and experience in the military environment, is four or five weeks long and is normally attended between the sophomore and junior years.

Further information about the Department of Military Science (Army) is available in its office (328 Fawcett) and on its Web site: <http://goto.wright.edu/academics/armyrotc/>. Information about the Department of Aerospace Studies (Air Force) is available in its office (118 Millett) and on its Web site <http://goto.wright.edu/academics/prog/rotc/home.htm>.

Cooperative Education

Cooperative education provides students with the opportunity to work full-time or part-time in career-related positions. Through cooperative education, students enhance their professional preparation by developing job-related skills, test career interests, relate their course of study to practical work situations, and earn income to meet educational expenses. Students enroll in the CPE cooperative education course to record co-op

experiences on their transcripts. Academic credit for work experience may be earned in some academic departments. Career Services staff enroll students in the CPE course and monitor their learning.

Interdisciplinary Study

Interdisciplinary study gives students a chance to explore different areas or to tailor a major to their interests. Many courses—including African and African American Studies, Criminal Justice, Integrated Language Arts, Social Science Education, International Studies, and Women's Studies—are offered jointly by cooperating departments. Students can also combine work in two different departments for a double, or dual, major. The Selected Studies major offered by the College of Liberal Arts allows students to pursue a self-designed course of study, culminating in a senior project, in an area where a major is not currently available. For more information on any of the programs, students should see the Selected Studies advisor.

Consortium

Wright State students also have hundreds of additional classes available to them through the university's membership in the Southwestern Ohio Council for Higher Education, an association that includes many colleges and universities in the area. Full-time students at Wright State may cross-register for credit at member schools, at Wright State's tuition rates, as long as class space is available, they have their advisor's consent, and the course is not offered at Wright State. They must also meet course and host college prerequisites.

The consortium also offers cooperative library privileges to students at all member institutions. These library holdings total more than a million volumes.

Student Exchange and Study Abroad

Students can study abroad through a variety of international programs offered through Wright State. The Ambassador Program—offered at various locations around the world—provides an opportunity to study the societies and cultures of other countries and to earn academic credit while doing so. Wright State is a member of the USAC study abroad consortium. It offers a full array of courses focusing on foreign language acquisition and the study of a variety of academic disciplines. Several of the latter type of courses are taught in English. Courses can be taken during a summer, semester, or year academic program. The consortium teaching sites include Australia, Chile, China, Costa Rica, Czech Republic,

Denmark, England, France, Germany, Ghana, Israel, Italy, Malta, New Zealand, Scotland, Spain, and Thailand. Wright State also offers individualized student exchange programs with universities in Brazil, Chile, France, Germany, Japan, Korea, Spain, and Sweden. On these programs, students pay Wright State tuition and local room and board costs while abroad. In the case of all Wright State exchange and study abroad programs, students can apply their student scholarships and loans to their studies.

Learning English for Academic and Professional Purposes (LEAP)

For non-native speakers of English wishing to study at an American college or university, Wright State offers the Learning English for Academic and Professional Purposes (LEAP) Intensive English Program.

Benefits of the LEAP Program include 10 weeks of instruction in small classes that allow for individual attention. The instruction includes intensive speaking, listening, reading, writing, grammar, and the latest computer technology, including Web browsing and e-mail. Students are instructed by experienced faculty with advanced degrees in teaching English as a second language or a related field, and by adjunct instructors closely supervised by more experienced faculty. The LEAP Program also features regular meetings with native English-speaking conversation partners and scheduled sessions with trained tutors in the University Writing Center.

Holders of F-1 visas must be enrolled full-time in the LEAP Program, although a part-time course of studies is available for immigrants and visitors. The LEAP Program is not subject to WSU tuition or fee waivers. For more information, please call (937) 775-2505 or e-mail carol.cornett@wright.edu.

Paul Laurence Dunbar Library

The Paul Laurence Dunbar Library plays an important role in instruction and research activities at Wright State University. The library collections, among the largest in the Dayton metropolitan area, include over 590,000 bound volumes, over one million microforms, 350,000 government documents, 4,000 serial subscriptions, and more than 4,000 media or visual items. The library is open more than 100 hours per week, longer during exam periods. In addition to the walk-in assistance available in the information/reference area during most hours, students may make appointments with reference librarians for in-depth assistance.

Librarians also offer group instruction through a series of regularly offered workshops on topics ranging from basic research introduction to advanced searching of Web resources and specialized databases.

As a partial U.S. government documents depository, the library provides students and the general public with access to electronic and print documents, including over 30,000 geographical and topographical maps from all over the United States. The Libraries are each a designated Patent and Trademark Depository Library with collection materials accessible in the Dunbar Library.

Special Collections and Archives houses collections on aviation history and Wright State University history, as well as one of the most extensive collections of Wright brothers materials, including more than 4,000 original photographs made by the Wrights to document their achievements.

The Fordham Health Sciences Library

The Fordham Health Sciences Library serves as the primary library for students in the College of Nursing and Health and Schools of Medicine and Professional Psychology. The Fordham Library contains 115,000 bound volumes, 1,300 serial subscriptions, and more than 12,000 microforms. The collections also contain audio-visual programs related to the health sciences and equipment for viewing or listening to these programs. Videotaped lectures are available for selected courses in the College of Nursing and Health. Group study rooms are also available for nursing students. The library is open 98 hours a week.

A unique cooperative relationship among the area's hospital libraries and the Fordham Health Sciences Library promotes sharing and nonduplication of library materials as well as reciprocal library services for students and professionals in the health care fields. Seven of the hospital libraries participate in OhioLINK; over 100,000 volumes in these affiliated libraries complement the university collections.

Special Collections of the Fordham Library include the McFarland Collection in aerospace medicine, the Aerospace Medical Association Archives, and the Wright State health sciences programs archives. The Thelma Fordham Pruett Rare Book Room houses rare American 18th- and 19th-century medical books.

Other Services

The Wright State University Libraries include the Paul Laurence Dunbar Library and the Fordham Health Sciences Library, located in the Medical Sciences Building.

The University Libraries are members of OhioLINK, an advanced computer network providing access to over 31 million library items in Ohio's university, college, and State Library collections. Students can order books online from OhioLINK libraries and receive them for check-out within two or three days. OhioLINK resources also include scores of research databases and the full text of thousands of journals and other works.

The Libraries' information research system uses a Web-based interface to provide integrated access to local and OhioLINK resources, plus many other resources available on the Internet. The Libraries' Web site is <http://www.libraries.wright.edu>.

Computer Resources

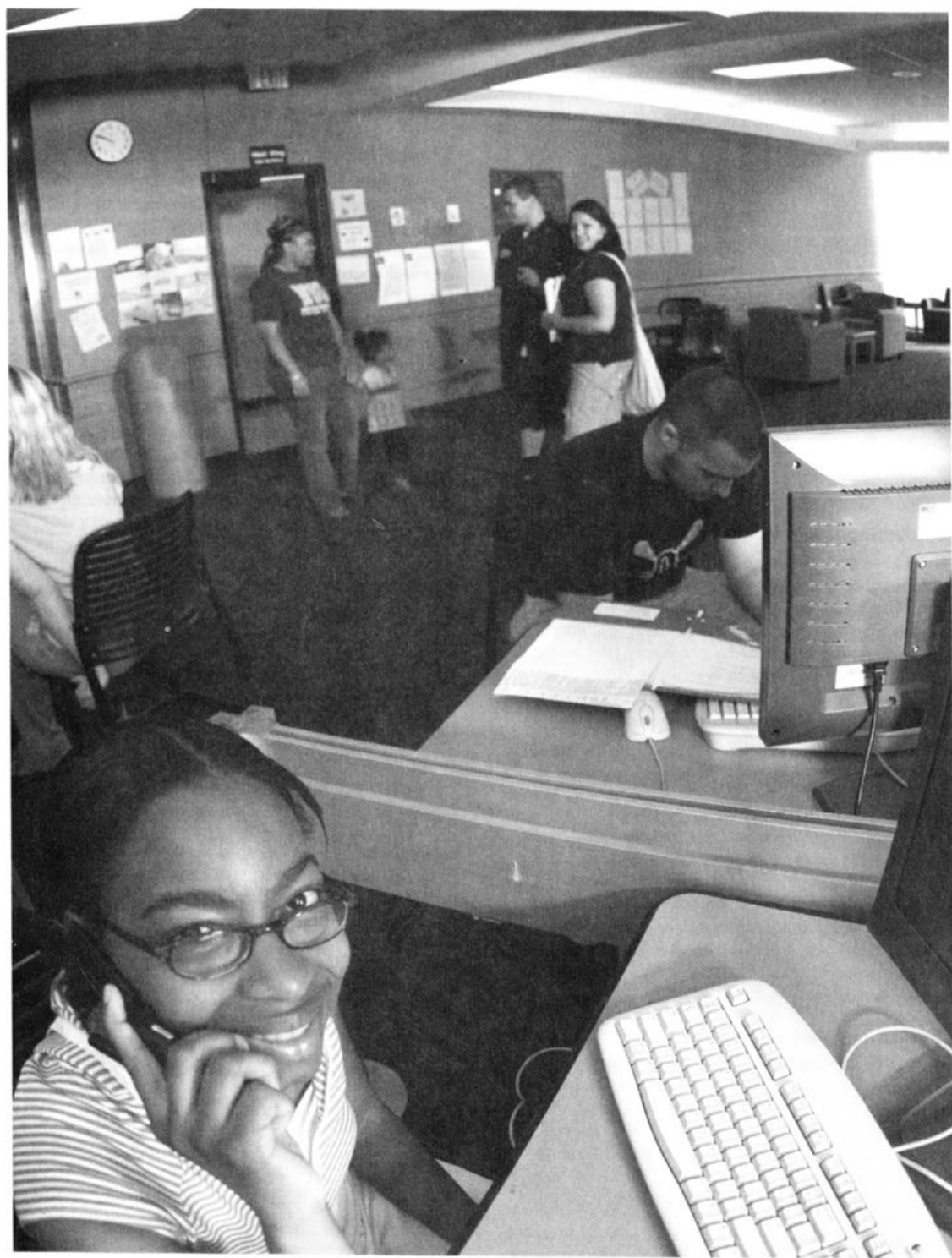
Computing and Telecommunications Services (CaTS) provides service and support for university telephones, campus networking, Internet access, and administrative and student computing resources. WSU students are encouraged to use these resources to enhance their learning experience. CaTS maintains computer classrooms (most open 24 hours) with computers networked to international resources, laser printers, and numerous software applications to complement students' classroom

activities. The computers in these classrooms not only provide desktop applications, but also provide access to larger computer platforms, such as our UNIX system, the University Libraries databases, and other Internet resources. WSU has a strong commitment to providing accessibility to all students. In support of this commitment, a variety of adaptive technologies are available to provide computer access to students with physical disabilities.

All students should obtain a CaTS CAMPUS account. The CAMPUS account provides the account name and password necessary to access the Internet, e-mail, and other computing resources. Accounts also provide personal and class disk space on the network file servers. With their CAMPUS account and a Web browser, students can access the Internet from home using the CaTS modem banks. Account owners are responsible for any improper or illegal activities that occur on their account. These activities include, but are not limited to, harassment of others through electronic communication and the use of university resources for business purposes. Therefore, account owners should not share their passwords with anyone for any reason. Misuse of resources can result in the loss of account privileges and charges filed with the appropriate university offices. CAMPUS accounts can be picked up at the **Help Desk in 025 Library Annex**. The CaTS Help Desk is the single point of contact for university computing questions, problems, and requests. Analysts are available to help seven days a week. Problems not resolved on the phone are logged into a tracking system and dispatched to the appropriate support groups for resolution. When contacting the Help Desk, if you receive a queue message indicating all analysts are busy, **please stay online!** A message is sent to the analysts letting them know you are waiting.



STUDENT LIFE



Student Services

In addition to classes and academic programs, Wright State has many services, facilities, and activities designed to help students enjoy all the benefits of university life and develop interpersonal and leadership skills. The student affairs offices are staffed by professionals trained to help students appreciate other cultures, develop leadership and life skills, clarify values, model ethical behavior, and encourage healthy relationships and lifestyles. Most of these services are free, and students are invited to visit the offices any time.

Disability Services

Extending the opportunities of higher education to people with disabilities is a high priority at Wright State. The university's Office of Disability Services offers programs to promote each student's academic, personal, physical, and vocational growth so that people with documented disabilities can realize their full potential. The office also serves as a resource to faculty and staff throughout the university.

Academic Support

These services are designed to assist students with documented disabilities in meeting all academic requirements at the university. Eligible students may receive accommodations such as sign language interpreters, lab assistance, or reader/writer service. The Office of Disability Services can administer exams outside the normal classroom for students needing additional time and/or reading and writing assistance due to disability-related limitations.

Adaptive Technology and Adaptive Media

The Technology Center provides classroom materials in alternative formats that include audiocassette tapes, computer disks, Braille, and image enhancements for eligible students. Consultations regarding computer adaptations and technology-related accommodations are available through a certified Adaptive Technology Specialist. Classes for new users of adaptive technology are offered during the academic year.

Physical Support

Physical support services include personal assistance with daily hygiene requirements, parking for persons with mobility impairments, assistance in locating adapted housing off-campus, training in the activities of daily living to achieve a greater degree of independence, and coordination of campus mobility orientation for students who have visual impairments.

Career and Vocational Support Services

These services assist students with documented disabilities in making career choices and in the planning and development of their careers. Opportunities also exist for students to have various work site experiences. These methods allow students to make realistic decisions about future careers and ensure that the students are able to meet the demands of their chosen occupations.

Eligibility

Applicants requesting services available to students with disabilities should contact the Office of Disability Services prior to enrollment. A copy of professional documentation of disability from the original source(s) should be submitted prior to a pre-service interview. A pre-service interview is designed to assess disability-related needs and to plan services accordingly. Students are encouraged to contact the office well in advance (6-12 months) of their planned entry date. Services requested in an untimely manner cannot be guaranteed and may result in a significant delay. Most services are provided to students at no cost; however, fee-based services, such as personal assistance and out-of-class reader/writer assistance, can be billed directly to students or sponsoring agencies.

University Center for International Education

The University Center for International Education (UCIE) offers a variety of services to international students and Wright State students interested in international education experiences. The UCIE works with the campus community to ensure an international dimension within the university's three major functions of teaching, research, and service.

The UCIE assists international students and scholars before and during their stay at Wright State. Besides processing admissions and offering orientation to international students, the UCIE also assists with off-campus housing and with immigration regulations, advising, and record keeping. Special educational, cultural, and sports programs for international students are also provided. International students can also participate in an off-campus host family program coordinated by the UCIE.

The UCIE provides opportunities for Wright State students to study, research, work, and teach abroad. Both American and international students can participate in these programs. Opportunities range from the three-week Ambassador Program, to a summer, semester, or year-long academic program in one of over 25 countries around the

world. The UCIE maintains a resource center on study abroad opportunities and internship and service learning programs.

The UCIE also offers a wide variety of programming for all students, including social gatherings, cultural programs, foreign language conversation hours, international lectures, the annual International Friendship Affair, International House, and many other opportunities to experience an international dimension at Wright State. The UCIE also assists faculty and staff in internationalizing the curriculum on campus and is an advocate for expanding global and comparative perspectives at Wright State.

Career Services

Wright State offers students comprehensive career development and employment assistance. Services include help with acquiring on-campus and off-campus student employment, internships, cooperative education positions, and full-time positions upon graduation; career exploration through the LA 201-Effective Career Planning course; and individual appointments addressing career planning and job-search assistance. Career Services provides opportunities and resources for students to investigate major and career possibilities through career and job fairs, the Career Resource Center, and an interactive computer guidance system, *Discover*. To assist with the job search, *The Wright Search*, a Web-based program for job postings and resumé referral service, is used for linking students with employers who are seeking job candidates. *The Wright Search* is also used for scheduling on-campus interviews. Career Services professionals help students prepare for the job search through mock interviews, resumé and cover letter reviews, and job search strategy building sessions. Visit Career Services' Web page at <http://career.wright.edu> for more information.

Counseling and Wellness Services

Counseling and Wellness Services offers a variety of services to assist students in coping with personal or emotional concerns, so as to enhance their academic performance and improve their general well-being. The center offers a warm, relaxed, and confidential place to talk. Meeting with a therapist can be an important step in relieving stress as well as identifying strategies for addressing concerns. Therapy is offered in individual, couples, family, and/or group modalities. In addition to therapy, we also provide psychological assessment, consultation, and psycho-educational seminars. Some examples of issues that may be addressed with our staff include relationship problems, academic

problems, family conflict, alcohol/drug use, sexual/physical abuse, panic/anxiety, depression, eating disorders, grief issues, and low self-esteem. All communications between a client and therapist are completely confidential and private. Counseling and Wellness Services does not release information to university administrators or faculty, parents, family members, or outside agencies without the client's written authorization. Exceptions to confidentiality include times when an individual is at risk for child or elder abuse, neglect, suicide, or homicide, or as otherwise required by Ohio Law. The center is open Monday through Friday, 8:30 a.m. to 5 p.m., and is located on the lower level of the Student Union, suite 053.

Veterans Affairs

Veterans who are eligible for education benefits through the Office of Veterans Affairs may contact Wright State's Office of Veterans Affairs in E-244 Student Union, or call (937) 775-5550. The office also helps dependents, spouses, and children of deceased or completely disabled veterans who qualify for education benefits. More information and forms are available online at <http://www.wright.edu/admissions/va/>.

Student Health Services

Students who need attention for illnesses, injuries, wellness checkups, and physicals may see the nurse practitioner at 055 Student Union. The nurse practitioner has prescriptive authority and is available for primary health care needs of the students on campus. There is also a physician available, by appointment, four hours per week. Those students who purchase the student insurance and are sick or injured will have their care covered by insurance. Students who have other insurance will be asked to pay a fee at the time of their visits. Documentation will be given to the student so that the student can submit the charges to his or her own insurance company. Student Health Services does not process claims for any insurance other than student insurance. Lab fees and injections must be paid for at the time of service. Visit our Web page at <http://www.wright.edu/students/health/>.

Student Legal Services

Student Legal Services is a law office located on campus that provides legal services and representation to Wright State University students. Services provided include assistance and representation, both in and out of court, in the areas of tenant/landlord relations, consumer law, wills, domestic relations, name changes, and misdemeanor criminal and traffic cases. Student Legal Services

may also provide limited service and advice in certain areas of the law, such as personal injury, estate and probate matters, and felonies. All services are free to students who pay the participation fee at the beginning of each quarter. Students wishing additional information should see the Student Legal Services web site at <http://www.wright.edu/students/legal/index.html> or call (937) 775-5857.

The Wright State University Police Department

The Wright State University Police Department, the official law enforcement agency for the university, provides police services 24 hours a day. Among the services provided are personal safety escorts; a crime prevention unit, which provides educational programs that focus on the 16 Student Life topics of crime awareness and prevention; and an investigations unit. To increase safety within the campus community, emergency phones are located throughout the campus in buildings, parking lots, and other remote areas. These phones ring directly into the Wright State University Police Department Communications Center to ensure an immediate response to all potential emergency situations. The Wright State University Police Department Communications Center can be reached by dialing (937) 775-2111; or, in the event of an emergency, dial 911 from any campus phone.

Parking and Transportation

Shuttle Service

Campus shuttle service is provided to the Park and Ride Lot 20 and the Nutter Center from approximately 7:30 a.m. to 10 p.m. Monday through Thursday and 7:30 a.m. to 6 p.m. on Friday, during fall, winter, and spring quarters. Shuttles run only while classes are in session and during finals week. No shuttle during breaks or university-observed holidays. All shuttles are wheelchair accessible.

Permits

Commuter students may purchase a C parking permit to park in core campus lots or a parking permit for the Park and Ride Lot 20 or Nutter Center Lot 8. Residence students are eligible to purchase a permit to park in the residence zones, based on availability determined by Residence Services.

Public Regional Transit

The Miami Valley Regional Transit Authority (RTA) provides county-wide public transportation to residents of Montgomery County. Included as part of RTA's service area is Wright State University's main campus.

RTA route number 1 provides year-round transportation between downtown Dayton and WSU, Monday through Friday, and a reduced schedule on weekends. Summer schedules may vary. RTA passes, tokens, and schedules are available at the parking office and on the counter next to the parking office. For information concerning RTA, call (937) 226-1144 or visit www.GreaterDaytonRTA.org.

For complete information on campus parking permits, regulations, and shuttle service, contact Parking and Transportation, E138 Student Union, (937) 775-5690.

Bolinga Black Cultural Resources Center

Opened in 1971 as a tribute to Dr. Martin Luther King, Jr., the Bolinga Black Cultural Resources Center promotes cultural diversity through programs, activities, and forums that celebrate the African American experience. The center also provides academic and personal support to students. Individual counseling is available by scheduling appointments with Bolinga Center staff, and a number of student organizations, such as Black Men on The Move, Black Women Striving Forward, and the McLin Scholars Association offer peer support.

Women's Center

The Women's Center serves as an information clearinghouse on women's issues and services, fostering greater ties between women at Wright State and women in the community. The center promotes gender equity through educational programs and activities that honor the roles, contributions, and experiences of all women. The center also provides resource support for the Women's Studies program and accommodates meetings, workshops, and other small group gatherings that address the concerns and interests of women on campus.

Asian/Hispanic/Native American Center

The Asian/Hispanic/Native American Center was created in October 1997 to support the academic, social, and cultural needs of Asian, Hispanic, and Native American students, faculty, and staff at the university. It also serves as an informational resource center regarding the Asian, Hispanic, and Native American experience and creates an appreciation and understanding of the diverse Asian, Hispanic, and Native American cultures represented within the community. The center's programs consist of guest speakers, workshops, film series, and celebrations of the

Hispanic, Native American, and Asian Heritage Months.

Facilities

Student Union

The Wright State Student Union offers a place to play, relax, meet others, take care of academic needs, study, exercise, and grab a bite to eat, all in one stop. As the heart of university life, the Student Union is committed to providing a safe place that is friendly and student centered and that promotes interaction among students, faculty, staff, alumni, and the community.

The professionally trained staff work closely with students to provide opportunities for personal growth and recreation through a number of cultural, educational, and social experiences ranging from guest lectures, bands, and classical concerts, to intracampus competitions and more. In addition to supporting innovative programs, this 308,000-square-foot facility houses a fitness center, arcade, gymnasium, meeting rooms, lounges, the University Bookstore, an art gallery, a credit union, student service offices, box office, and the Union Market.

The Union Market, Wright State University's newest dining facility, opened in fall of 2002 and provides upscale dining with six venues within the main servery including Salvador Deli, Herbs & Bisque, Chef's Kitchen, Formaggio's, On the Barbie, and Palettes. At the west entry to the Union Market, the Wright Cup coffee shop, the Hearth Lounge, and the Cyber Café provide popular hang-outs for students.

Campus Housing

Wright State offers residential communities housing over 3,000 students, with 11 residence halls for traditional-aged single students; 12 apartments for upperclass, single students; and three apartments for nontraditional and graduate students. The Celebrating Healthy Options in the College Environment residence program is offered to students desiring a substance-free environment. University Honors students can live in the Honors Residence Hall. The Hamilton Living-Learning Center focuses on academic success for first-year students, providing tutoring, workshops, and study groups based on general education courses. Campus Housing provides an environment and programs that advance the educational goals of resident students and Wright State University.

For the most up-to-date Campus Housing information, visit <http://www.wright.edu/housing/>

Dining Services

Dining Services is contracted to Sodexo, USA. There are four dining service locations on campus, as well as a gourmet catering department. The Hangar is located in Allyn Hall and offers nationally recognized concepts such as Pizza Hut, Taco Bell, and Chick-Fil-A. Late night delivery service is also available from The Hangar. The Honors Dorm has a C-Store offering convenience items and a sub shop. The Student Union houses Union Market and Wright Cup. Wright Cup is an upscale coffee venue offering fresh-baked pastries, Grab-n-Go salads and sandwiches, smoothies, and Seattle's Best Coffees. Union Market is made up of seven platforms offering made-to-order foods with an international -air. Meals plans, Flex Dollars, and Bonus Bucks are available for resident students, commuting students, faculty, and staff.

For the most up-to-date information about Wright State University's Dining Services, visit <http://www.wright.edu/admin/foodserv/>.

Co-Curricular Activities

Campus Recreation

The Wright State University Office of Campus Recreation is located in the Student Union, the heart of campus, and provides exceptional facilities and programs to promote the total health and wellbeing of each member of the university community. Professional staff work to meet the diverse needs of students, faculty, and university employees alike through activities and programs that promote healthy lifestyles, positive relationships, productive leadership, fair play, and—of course—fun. Recreational facilities consist of a fitness center, gymnasium, swimming pool, seven squash and racquetball courts, a spinning room, billiards room, game arcade, and outdoor playing fields. Students also have access to a second gymnasium, weight room, indoor running track, and outdoor tennis courts located just down the street at the Ervin J. Nutter Center.

Campus Recreation offers something for everyone—from basketball to wallyball, table tennis to bowling, and a variety of adapted recreation sports from billiards to quad rugby. Students are encouraged to participate in the more than 20 intramural leagues, 22 sports clubs, and 25 special events and tournaments offered annually. For the

outdoor enthusiast, Campus Recreation offers several outdoor activities such as camping trips, a ski trip, horseback riding, and in-line skating, as well as an Outdoor Resource Center for outdoor equipment and information.

Students may take advantage of a wide offering of noncredit fitness instruction, from traditional cardiovascular workouts, such as step, dance, or water aerobics, spinning, and kick boxing, to more nontraditional holistic offerings in meditation and massage. In addition, training services are available to those interested in a personal exercise program. All sports and recreation are inclusive. If you require assistance or need reasonable adaptations to participate fully in any program, please contact the Office of Campus Recreation at (937) 775-5815. For a complete listing of activities and programs, visit our Web site at <http://www.wright.edu/students/rec/>.

Athletics

The university offers a broad program of intercollegiate sports for both men and women. Wright State's student-athletes compete in NCAA Division I and the Horizon League. Men's and women's sports opportunities include basketball, cross country, soccer, swimming, and tennis. In addition, the university offers baseball and golf for men, along with women's softball, volleyball, and indoor/outdoor track.

Music

In addition to offering private lessons and academic programs in music, the Department of Music gives all students a chance to participate in instrumental and choral ensembles. These groups provide diverse opportunities ranging from jazz and gospel to the classical tradition. Several of the ensembles require no audition.

Cultural Activities

Each academic year, the University Theatre presents five mainstage productions and two dance concerts; three studio productions; numerous student-directed productions; and screenings of student films. The Department of Theatre Arts (theatre, dance, and motion pictures) biannually sponsors a Big Lens Festival of student films. The department brings in guest artists throughout the year.

The Departments of Theatre Arts, Music, and Art and Art History annually present the ARTSGALA, an arts and entertainment event that raises need-based scholarship funds for qualified Miami Valley students in the fine and performing arts.

The Department of Music presents a variety

of performances during the academic year, including opera productions; band, orchestral, and choral concerts; chamber music recitals; and solo performances by students and faculty. Most performances are held in the Concert Hall, located in the Creative Arts Center. All are open to the public, and many are free of charge.

The University Art Galleries in the Creative Arts Center, run by the Department of Art and Art History, schedule six fine art exhibitions each year, which are free and open to the public. The Experimental Gallery, part of the same complex, houses frequently changing exhibitions of student art work.

The University Activities Board (UAB), operated by students for students, schedules a wide variety of events, including guest speakers, comedy/novelty entertainment, concerts, cultural activities, and traditional programs such as Fall Fest and May Daze.

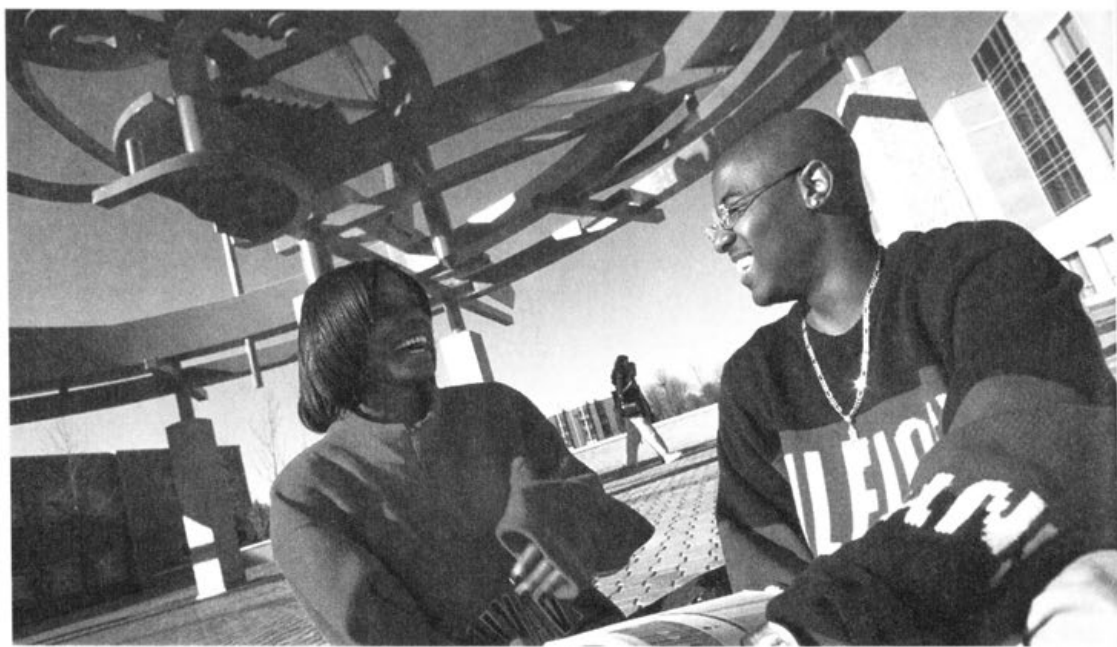
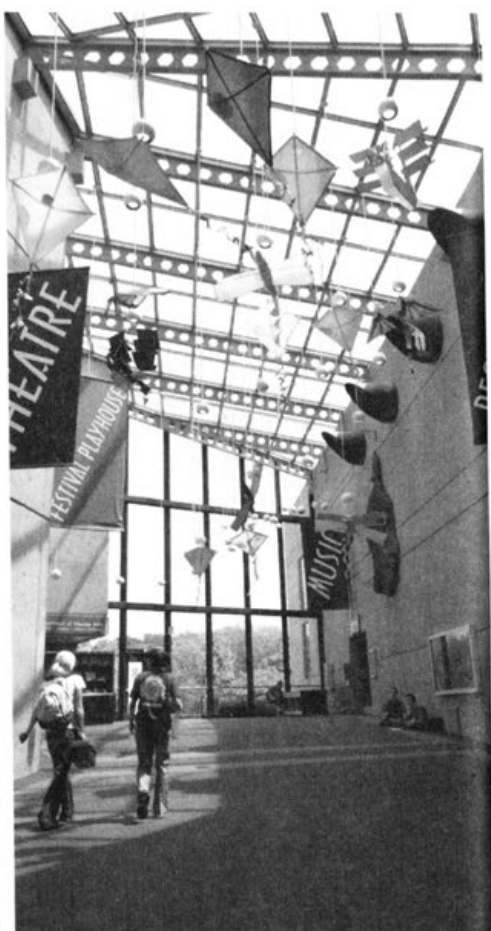
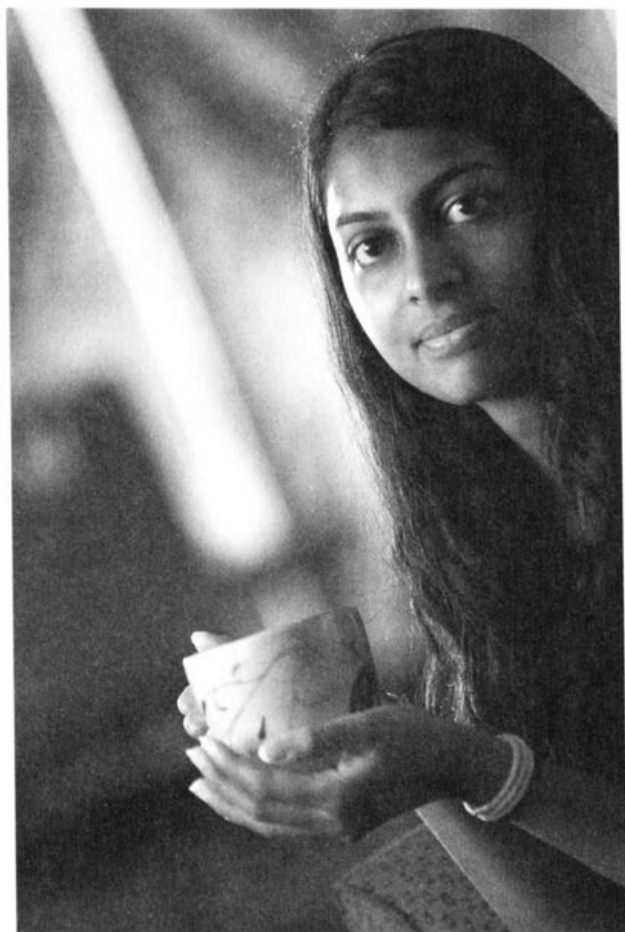
Organizations and Activities

Wright State has more than 150 registered student organizations including the following:

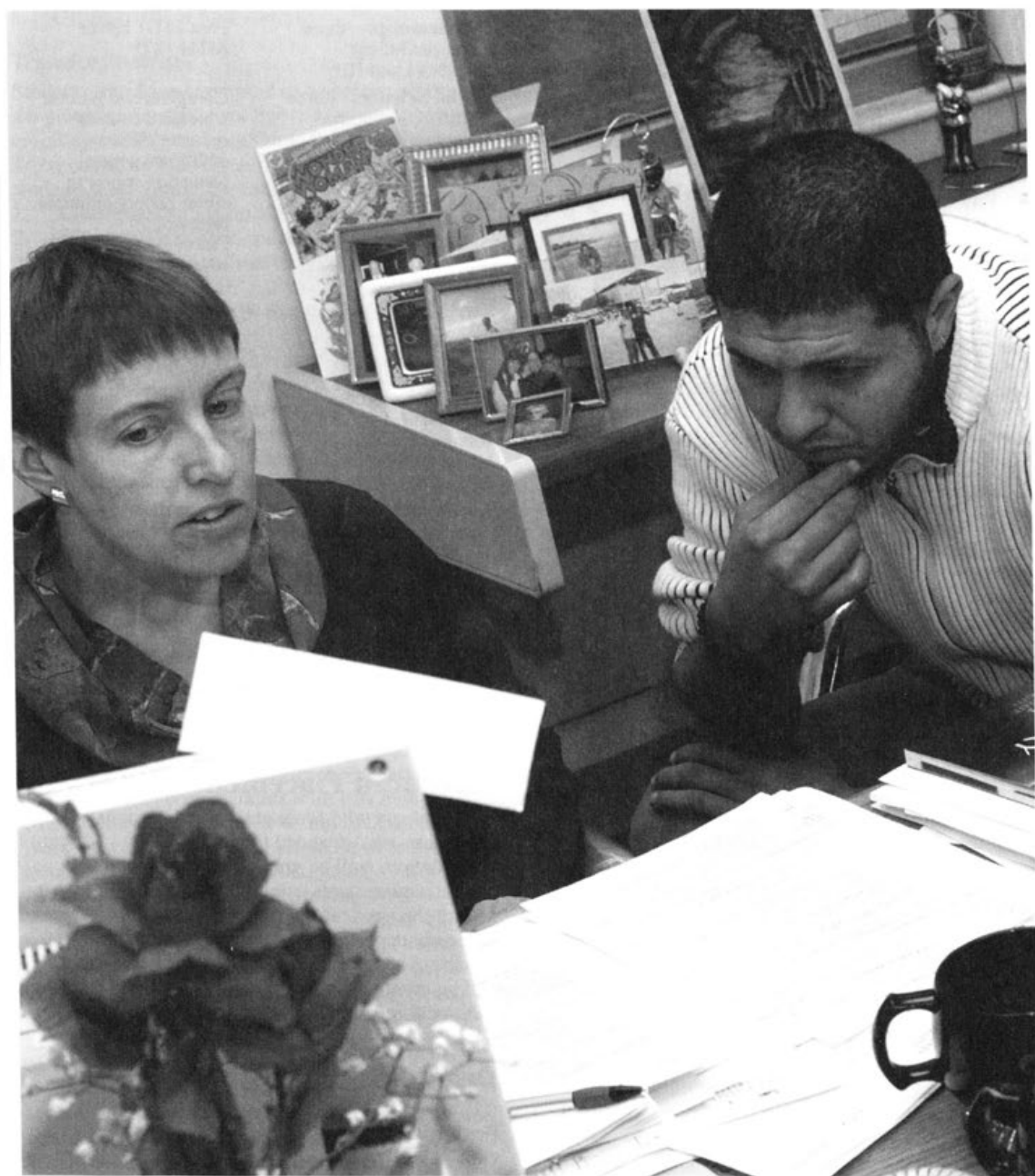
- Student Government
- Black Student Union
- Greek Council
- University Activities Board
- Rainbow Alliance
- National sororities and fraternities
- The Guardian*, student newspaper
- WWSU, student radio station
- Nexus, literary magazine
- Honorary groups
- Department clubs
- Religious clubs
- Special interest groups
- Sports clubs
- Leadership programs
- Disabled Student Union
- Student Honors Association
- Commuter Student Association

For a complete listing of organizations go to <http://www.wright.edu/studentactivities>





ADMISSION, ADVISING, AND REGISTRATION



Becoming a new student at Wright State University involves several important steps. This section explains these steps so that students can follow the process and make informed decisions about services that might help in making decisions. A summary of services and offices mentioned is provided later in this section, along with phone numbers to call if you have further questions.

Steps for Students New to Wright State

1. Apply and complete the **admission** process
2. Inquire about **financial aid**, if needed
3. Take **placement tests**
4. Attend **orientation** program (SOAR)
5. **Meet with an advisor**
6. **Register** for classes
7. **Pay quarterly fees**
8. Seek academic assistance

Details about items shown in **bold** type are provided in the following pages.

After students are admitted they are advised by a professional advisor or faculty member in the academic unit. Specific information about advising will be provided in the student's letter of admission.

Admission

Ohio students who have graduated from a state chartered high school and completed the recommended college preparatory curriculum are eligible to apply for unconditional admission. Out-of-state students, however, must present evidence of above-average ability to do college work. Students who do not meet these criteria will be reviewed on an individual basis. Based upon the review of a completed admission file, the applicant may be offered unconditional or conditional admission to the university. Some applicants who do not meet the requirements may have their admission deferred, pending satisfactory completion of developmental or remedial courses.

Admission to the university does not automatically guarantee admission to a major program of study; major programs of study have specific entrance requirements that must be met.

High School Preparation

Wright State has adopted a college preparatory curriculum policy. The university requires applicants to have a high school record that meets the recommendations of the Advisory Commission on Articulation between Secondary

Education and Ohio Colleges. Students who do not meet the high school course requirements may be admitted to the university with conditions and will be required to remove deficiencies before they can graduate from Wright State University.

The following table summarizes the college preparatory course requirements and indicates how deficiencies may be removed.

<i>Subject Area/ Requirement</i>	<i>Removal of Deficiencies</i>
English —four units	Pass ENG 101*
Mathematics —three units (including Algebra I and II)†	Pass MTH 126 or MTH 127*
Social Sciences —three units (including two units in history)	Complete two general education courses in history and an additional general education course in either history or human behavior.
Science —three units	Complete the general education requirement in natural sciences. A one-term lecture/lab course removes up to one unit of deficiency.
Foreign Language —two units (in the same foreign or classical language through level II)†	Pass courses through the 103 level or demonstrate proficiency by examination.
Arts —one unit	Complete one general education course in Fine and Performing Arts.

* Initial enrollment in English and mathematics courses will be determined by placement testing. See the section on Placement Testing.

† Algebra I and Foreign Language I may be taken in eighth grade.

Advanced Placement

Students who score at or above designated minimums on Advanced Placement (AP) examinations will be granted credit applied to degree requirements using the same guidelines that govern the application of transfer credit. Individual academic departments determine acceptable minimum scores and the courses for which credit will be granted. Consult your academic advisor for additional information.

Degree-Seeking Students

Beginning Freshmen

Students beginning college with the intention of

earning a degree must submit the following to be considered for admission:

1. Undergraduate application
2. \$30 nonrefundable application fee
3. High school transcript (partial one at time of application, final one at end of senior year) or official GED scores.
4. Evidence that all sections of the Ohio Graduation Test were passed or qualifying exemption
5. College Preparatory Curriculum Completion Form
6. Official ACT or SAT scores

Transfer Students

Students who have attempted one or more courses at a regionally accredited college or university before enrolling at WSU are considered transfer students. To be considered for admission as a transfer student, students must submit the following:

1. Undergraduate application
2. \$30 nonrefundable application fee
3. Official transcript from each college previously attended
4. High school transcript (required of the following students):
 - High school graduates of 1986 or before who are transferring with fewer than 12 quarter (nine semester) hours
 - High school graduates of 1987 or after who are transferring with fewer than 45 quarter (30 semester) hours
5. College Preparatory Curriculum Completion Form (required of the following students):
 - High school graduates of 2002 or after who are transferring with fewer than 45 quarter (30 semester) hours. Graduates of 1987 or after with fewer than 45 hours must fulfill any high school deficiencies even though they do not need to submit the college prep form.

All transfer students with at least a C average are eligible for admission to the university; admission to most colleges and schools requires a higher GPA. Those students with less than a 2.0 GPA from colleges attended within the past three years must petition for admission. Petition forms are available in the Office of Undergraduate Admissions and must be submitted along with the other applications materials as outlined. Students with less than a 2.0 GPA who have been out of college for more than three years do not have to petition to transfer to Wright State. Students who have been dismissed/suspended from another institution will not be considered for admission to Wright State for one calendar year.

Students who have been granted a "fresh start" at another institution must have earned an additional minimum 12 hours at the same institution before Wright State will recognize the recalculated GPA for admission purposes.

Transfer Credit Regulations

1. Students' credits must have been earned at an institution that is regionally accredited. Transfer appeals should be submitted in writing to the Office of the Registrar.
 2. Transfer students are subject to all Wright State requirements, including minimum course grades and GPAs, for entrance to particular majors and programs. Transfer students who must repeat courses to meet these requirements will follow the same rules for repeating courses as students who begin at Wright State (see "Scholastic Policies" in this catalog). Grades of "pass" and "credit" are considered for transfer credit.
- Ohio Transfer and Articulation Policy was revised effective Fall 2005 for grades in courses completed outside an Associate of Arts or Associate of Science degree. As of Fall 2005 and thereafter, a student must have earned a course grade of D or higher (according to the definition of grades currently used at Wright State) to transfer credit for that course. Previous policy required that a student earn a grade of C or higher to transfer credit for the course. However, students who completed courses before Fall 2005 with a grade of D may request that credits be posted for those courses. Forms for submitting these requests are available in the Office of the Registrar.
3. Any credit earned through correspondence, off-campus, or distance learning is subject to the same regulations as other transfer credit.
 4. Students who have completed three-fourths or more of the Wright State quarterly credit hour requirement for a course or sequence may receive credit for that course or sequence. For example, two three-credit hour courses in English composition may be considered the equivalent of ENG 101 and 102 (8 credit hours).
 5. Wright State academic advisors will determine how students' transfer credits are to be used toward the requirements for their major. If there are exceptions to the application of transfer credit, the dean of the major college or school involved will make the decision.
 6. The Office of Undergraduate Admissions will notify students of their admission to the University College's office of Adult and Transfer Services or the appropriate college.
 7. General education requirements for most transfer students will be determined by a course-by-course evaluation.
 8. Students who have already received a baccalaureate degree from an accredited institution and wish to pursue a second baccalaureate degree will automatically receive 138 quarter credit hours. They will be ranked as

seniors. An advisor will determine how many credits these students will have to complete to receive their second degree.

9. All religion courses taught by a religion department in any state college or university will be considered for transfer credit. These courses are subject to other applicable transfer credit regulations. Religion courses taught by all other colleges must be approved by the Religion Department before transfer credit is granted.
10. Transfer students with a minimum GPA of 3.4 or higher earned at Wright State may be eligible to graduate with Latin honors (summa cum laude, magna cum laude, or cum laude). For the purpose of determining Latin honors, the student's GPA at Wright State will be recalculated to include all posted transfer grades; however, this recalculated GPA will not be reflected on the student's academic record. The official transcript will include only the GPA for courses completed at Wright State. The recalculated GPA may result in the student's not earning Latin honors at graduation.
11. The Wright State University grading system does not award "+" and "-" grades. Students transferring courses and associated grades to Wright State University from institutions under a "+" and "-" grading system will be evaluated and receive a transfer grade based on the Wright State University grading system. For example, grades of C+, C, or C- will be evaluated as a C for transfer to Wright State University.

Institutional Transfer

The Ohio Board of Regents in 1990, following a directive of the 119th Ohio General Assembly, developed the Ohio Articulation and Transfer Policy to facilitate students' ability to transfer credits from one Ohio public college or university to another in order to avoid duplication of course requirements. A subsequent policy review and recommendations produced by the Articulation and Transfer Advisory Council in 2004, together with mandates from the 125th Ohio General Assembly in the form of Amended Substitute House Bill 95, have prompted improvements of the original policy. While all state-assisted colleges and universities are required to follow the Ohio Articulation and Transfer Policy, independent colleges and universities in Ohio may or may not participate in the transfer policy. Therefore, students interested in transferring to independent institutions are encouraged to check with the college or university of their choice regarding transfer agreements. In support of improved articulation and transfer processes, the Ohio Board of Regents will establish a transfer clearinghouse to receive, annotate, and convey transcripts among state-assisted colleges and universities. This system is designed to provide standardized information and help colleges and universities reduce undesirable variability in the transfer credit evaluation process.

Transfer Module

The Ohio Board of Regents' Transfer and Articulation Policy established the Transfer Module, which is a subset or entire set of a college or university's general education curriculum in A.A., A.S. and baccalaureate degree programs. Students in applied associate degree programs may complete some individual transfer module courses within their degree program or continue beyond the degree program to complete the entire transfer module. The Transfer Module contains 54-60 quarter hours or 36-40 semester hours of course credit in English composition (minimum 5-6 quarter hours or 3 semester hours); mathematics, statistics and formal/symbolic logic (minimum of 3 quarter hours or 3 semester hours); arts/humanities (minimum 9 quarter hours or 6 semester hours); social and behavioral sciences (minimum of 9 quarter hours or 6 semester hours). Oral communication and interdisciplinary areas may be included as additional options. Additional elective hours from among these areas make up the total hours for a completed Transfer Module. Courses for the Transfer Module should be 100- and 200-level general education courses commonly completed in the first two years of a student's course of study. Each state-assisted university, technical and community college is required to establish and maintain an approved Transfer Module

Transfer Module course(s) or the full module completed at one college or university will automatically meet the requirements of individual Transfer Module course(s) or the full Transfer Module at another college or university once the student is admitted. Students may be required, however, to meet additional general education requirements at the institution to which they transfer. For example, a student who completes the Transfer Module at Institution S (sending institution) and then transfers to Institution R (receiving institution) is said to have completed the Transfer Module portion of Institution R's general education program. Institution R, however, may have general education courses that go beyond its Transfer Module. State policy initially required that all courses in the Transfer Module be completed to receive its benefit in transfer. However, subsequent policy revisions have extended this benefit to the completion of individual Transfer Module courses on a course-by-course basis. Wright State's Transfer Module is shown on page 38.

Transfer Assurance Guides

Transfer Assurance Guides (TAGs) comprise Transfer Module courses and additional courses required for an academic major. A TAG is an advising tool to assist Ohio university and community and technical college students planning specific majors to make course selections that will ensure comparable, compatible, and equivalent learning experiences across the state's higher-

education system. A number of area-specific TAG pathways in the arts, humanities, business, communication, education, health, mathematics, science, engineering, engineering technologies, and the social sciences have been developed by faculty teams.

TAGs empower students to make informed course selection decisions and plans for their future transfer. Advisors at the institution to which a student wishes to transfer should also be consulted during the transfer process. Students may elect to complete the full TAG or any subset of courses from the TAG. Because of specific major requirements, early identification of a student's intended major is encouraged.

Conditions for Transfer Admission

1. Ohio residents with associate degrees from state-assisted institutions and a completed, approved Transfer Module shall be admitted to any state institution of higher education in Ohio, provided their cumulative grade point average is at least 2.0 for all previous college-level courses. Further, these students shall have admission priority over out-of-state associate degree graduates and transfer students.
2. When students have earned associate degrees but have not completed a Transfer Module, they will be eligible for preferential consideration for admission as transfer students if they have grade point averages of at least 2.0 for all previous college-level courses.
3. In order to encourage completion of the baccalaureate degree, students who are not enrolled in an A.A. or A.S. degree program but have earned 60 semester or 90 quarter hours or more of credit toward a baccalaureate degree with a grade point average of at least 2.0 for all previous college-level courses will be eligible for preferential consideration for admission as transfer students.
4. Students who have not earned an A.A. or A.S. degree or who have not earned 60 semester hours or 90 quarter hours of credit with a grade point average of at least 2.0 for all previous college-level courses are eligible for admission as transfer students on a competitive basis.
5. Incoming transfer students admitted to a college or university shall compete for admission to selective programs, majors, and units on an equal basis with students native to the receiving institution. Admission to a given institution, however, does not guarantee that a transfer student will be automatically admitted to all majors, minors, or fields of concentration at the institution. Once admitted, transfer students shall be subject to the same regulations governing applicability of catalog requirements as native students. Furthermore, transfer students shall

be accorded the same class standing and other privileges as native students on the basis of the number of credits earned. All residency requirements must be completed at the receiving institution.

Acceptance of Transfer Credit

To recognize courses appropriately and provide equity in the treatment of incoming transfer students and students native to the receiving institution, transfer credit will be accepted for all successfully completed college-level courses completed in and after fall 2005 from Ohio state-assisted institutions of higher education. Students who successfully completed A.A. or A.S. degrees prior to fall 2005 with a 2.0 or better overall grade point average would also receive credit for all college-level course they have passed. While this reflects the baseline policy requirement, individual institutions may set equitable institutional policies that are more accepting.

Pass/fail courses, credit by examination courses, experiential learning courses, and other nontraditional credit courses that meet these conditions will also be accepted and posted to the student record.

Responsibilities of Students

In order to facilitate transfer with maximum applicability of transfer credit, prospective transfer students should plan a course of study that will meet the requirements of a degree program at the receiving institution. Students should use the Transfer Module, Transfer Assurance Guides, and Course Applicability System for guidance in planning the transfer process. Specifically, students should identify early in their collegiate studies an institution and major to which they desire to transfer. Furthermore, students should determine if there are language requirements or any special course requirements that can be met during the freshman or sophomore year. This will enable students to plan and pursue a course of study that will articulate with the receiving institution's major. Students are encouraged to seek further information regarding transfer from both their advisor and the college or university to which they plan to transfer.

Transfer Appeals Process

A student disagreeing with the application of transfer credit has the right to appeal the decision. After receiving a statement of the application of transfer credit and contact information within the receiving college, the student will have 90 days from the date on the statement in which to consult the receiving college for clarification and to file an appeal through the Office of the Registrar. The appeal will be acted on by the petitions committee of the college or school in which the student is enrolled

then reviewed by the university-level Undergraduate Petitions Committee, which will send written notification of its decision to the student and the department.

Transfer Module

Ohio Transfer Module (TM) Areas	WSU General Education Requirements Applied to TM
English/Oral Communication 5 qtr/3 sem	8 hours ENG 101 ENG 102
Mathematics, Statistics, or Formal Logic Minimum 3 qtr/3 sem	4+ hours (1 row) MTH 228, MTH 229, & 230, STT 265
Arts/Humanities Minimum 9 qtr/6 sem	12–20 hours 1 class from History: CL 120, HST 101, 102, 103 1 class from Great Books or Fine Arts: CLS 204, ENG 204, PHL 204, REL 204, ART 214, MUS 121, 122, 214, 290, TH 214, MP 131 Additional hours not counted above or from: AFS 200, CLS 204, CLS 260, CST 231, 232, 242, 243, HST 200, 220, 221, MUS 290, PHL 200, TH 250
Social Science Minimum 9 qtr/6 sem	12–20 hours at least 2 courses from different rows (1) EC 200, 290, or 204 & 205 (2) PLS 200 (3) PSY 105 (4) SOC 200, WS 200, UH 202 Additional hours not counted above or from: ATH 241, 242, CSE 250, CST 221, 241, 251, EC 290, HST 200, 220, PSY 110, RSE 260 RST 262, 271, 281, 291
Natural Science Minimum 9 qtr/6 sem	12–16 hours (3 courses) BIO 105, 106, 107, 111, 112, 115, 345* CHM 105, 106, 107, 121/25, 122/26, 123/27, 245, 246 EES 105, 106, 107, 251/52, 253/54, 255/56, 260, 345 HPR 250, 251 PHY 105/15, 106/16, 107/17, 240/200, 242/202, 244/204, 245, 246 CHM 102, ANT 201, 202
Sub Total Minimum 36 qtr/24 sem	56

Interpretation of WSU Transfer Module

All courses in the History subcategory will count in Humanities.

All Regional Studies courses will count in Social Sciences.

All Human Behavior courses will count in Social Sciences.

All Human Expression courses will count in Humanities.

Superscript 1: Comparative Studies

The following Comparative Studies courses will count as Humanities:

CST 231 - Comparative Non-Western Literatures

CST 232 - Comparative Non-Western Religions

CST 242 - Comparative Non-Western Music

CST 243 - Comparative Non-Western Art

The following Comparative Studies courses will count as Social Sciences:

CSE 250 - Comparative Non-Western Economic Systems

CST 221 - Comparative Non-Western Environments

CST 241 - Comparative Non-Western Cultures

CST 251 - Comparative Non-Western Political and Social Systems

Superscript 2: College Component

The following College Component courses will count as Humanities:

AFS 200 - What is African and African American Experience

CLS 204 - Great Books: Classics

CLS 260 - Introduction to Classical Mythology

CST 231 - Comparative Non-Western Literatures

CST 232 - Comparative Non-Western Religions

CST 242 - Comparative Non-Western Music

CST 243 - Comparative Non-Western Art

ENG 204 - Great Books: Literature

HST 200 - Western Europe and Non-Western World

HST 220 - Introduction to Gender History

HST 221 - American Diversities

MUS 290 - African American Music: America and Beyond

PHL 200 - Critical Thinking

PHL 204 - Great Books: Philosophy

REL 204 - Great Books: Religion

TH 250 - Script Analysis

The following College Component courses will count as Social Sciences:

ATH 241 - Introduction to Physical Anthropology

ATH 242 - Introduction to Archaeology

CNL 210 - Understanding Emotional Intelligence

CSE 250 - Comparative Non-Western Economic Systems

CST 221 - Comparative Non-Western Political and Social Systems

CST 241 - Comparative Non-Western Cultures

CST 251 - Comparative Non-Western Political and Social Systems

EC 290 - Economic, Business and Social Issues

HST 200 - Western Europe and Non-Western World

HST 220 - Introduction to Gender History

PSY 110 - Psychology: The Science of Behavior II

RSE 260 - Regional Economic Studies

RST 262 - Regional Studies: China

RST 271 - Regional Studies: Africa

RST 281 - Regional Studies: Latin America

RST 291 - Regional Studies: The Middle East

SOC 200 - Social Life

URS 200 - Growth Change in Urban Society

WMS 200 - Approaches to Women's Studies

The following College Component courses will count as Sciences:

EES 205 - Environmental Science and Society

The following General Education courses will not count in the Transfer Module:

CNL 210-4 Understanding Emotional Intelligence

ED 210-4 Education in a Democracy

EGR 190-4 Fundamentals of Engineering and Computer Science

FIN 205-4 Personal Financial Decision Making

HLT 201-4 Human Expressions of Health

HLT 202-4 Eastern Influences on Western Health

HLT 203-4 The Languages of Health Data

ISE 210-4 Engineering Perspectives

MP 131-4 Film Appreciation

MTH 145-4 Mathematics and the Modern World

MTH 143-4 Quantitative Reasoning

NUR 212-4 Nursing for Health and Wellness Lifestyle

PHY 111/101 Principles of Physics

PHY 112/102 Principles of Physics

PHY 113/103 Principles of Physics

RHB 210-4 Introduction to Alcohol and Drugs

RST 261-2 Regional Studies: Japan

SM 205-4 Great Ideas in Science

STT 264-4 Elementary Statistic I

STT 160-4 Statistical Concepts

SW 272-4 Cultural Competence in a Diverse World

UH 201-4 Studies in the Humanities

International Students

Wright State welcomes applications from qualified international applicants. Over 600 students on F-1 and J-1 student visas currently attend the university. Application materials are available at the University Center for International Education. Applications for admission must be completed four months before the quarter in which applicants wish to begin studies at Wright State. International applicants are expected to meet the following criteria for admission:

1. Undergraduate applicants must have an educational background that is equivalent to a high school diploma from the state of Ohio.
2. All international applicants must demonstrate proficiency in English. For applicants whose native language is not English, the Test of English as a Foreign Language (TOEFL) is required; a minimum score of 173 (CBT) or 61/120 (IBT) is required for admission. The College of Engineering and Computer Science requires a score of 197 (CBT) or 71/120 (IBT). Nonnative English-speaking students will also be tested in English upon arrival at Wright State and are required to enroll in appropriate English courses if the testing so indicates.
3. Since no financial assistance is available for undergraduate international students, the university must be assured that all international applicants have adequate financial resources to attend Wright State.
4. Transfer students must also present evidence of above-average ability to do college work. All first-year international students are required to take the reading, writing, and mathematics placement examinations before enrolling for their first quarter of classes. Students should contact the University College for further placement testing information.

Returning Students

Students who have not attended Wright State for four or more consecutive quarters must apply for readmission through the Office of Undergraduate Admissions. There is no additional application fee, and official transcripts are required only from the schools students have attended since they left Wright State or if originals have been destroyed and are required by a college or major for an admission decision.

Students who have been dismissed may apply for readmission by petition after they have remained out of school for four quarters; see readmission in the Academic Standards and Requirements section. Students who have not attended Wright State for five years (20 consecutive quarters) may wish to take advantage of the Fresh Start Rule. This rule may

allow students to have their earlier GPA recalculated. Interested students should contact the Office of Undergraduate Admissions for more information.

Other Admission and Enrollment Categories

Nondegree Undergraduate Students

Students who wish to take courses at Wright State but do not intend to work toward a degree at this time can register as nondegree students. Students may take as many courses as they like, as long as they meet the requirements for each course. To be eligible to register as nondegree students, they must have graduated from an accredited high school or passed a high school equivalency test (GED).

To apply, students need only fill out a simple application/registration form and pay a one-time \$10 registration fee. Later, if they decide to enter a degree program, they can file their credentials. Nondegree work normally can be applied toward a degree program.

Nondegree students may receive academic advising from University College and may participate in any of the services of the division, including tutoring and developmental education courses.

Teacher Certification/Licensure Candidates

College graduates who wish to become licensed teachers must apply for admission, file all the necessary credentials, pay the application fee, and complete the degree-seeking college admissions process as described previously.

Undergraduate students and students who receive degrees from other colleges within the university may also obtain teaching licenses upon completion of all the requirements of the College of Education and Human Services.

High School Students

High school students may, in some circumstances, take courses at Wright State while still enrolled in high school. For specific information about the program, contact the Office of Undergraduate Admissions.

Financial Aid

The Office of Financial Aid makes every effort to help students who would be unable to attend school without receiving some form of financial aid. No student interested in attending Wright State University should fail to apply because of financial

limitations. If necessary, students should meet with a financial aid staff member to discuss any questions or concerns they may have regarding their financial aid package. The Office of Financial Aid is located on campus at E136 Student Union, or by phone at (937) 775-5721, or toll-free at 1-877-978-3243, or by e-mail at financialaid@wright.edu. Office hours are 8:00-5:00 Monday through Friday, except holidays. Please contact the office beforehand to arrange an appointment if you would need to meet with a financial aid staff member.

To determine summer and/or academic year financial aid eligibility for federal and state-based aid, the Office of Financial Aid requires completion of the Free Application for Federal Student Aid (FAFSA) for the academic year that you plan to attend. The financial aid programs available through FAFSA are the Federal Pell Grant, Federal Supplemental Educational Opportunity Grant (FSEOG), Federal Academic Competitiveness Grant, Federal SMART Grant, Federal Perkins or Nursing Student Loan, Federal Work-Study, Federal Subsidized and/or Unsubsidized Stafford Student loans, Federal Parent Loan for Undergraduate Students (PLUS), Ohio College Opportunity Grant, and the Ohio Instructional Grant (OIG) or Ohio Part-Time Student Instructional Grant. The application deadlines and requirements for these programs vary, so it is essential that individuals contact the Office of Financial Aid or visit the Web site at <http://www.wright.edu/finaid/> for specific dates and additional details.

The preferred method of filing the FAFSA is online. The Web site for online FAFSA filing is <http://www.FAFSA.ed.gov>. Students and parents (for dependent students) must request a FAFSA PIN before filing the FAFSA online. The FAFSA PIN will serve as the online signature for the student filer and parent (if required). The FAFSA PIN request is made online at <http://www.pin.ed.gov>. Filing the FAFSA online and including a valid e-mail address, Wright State school code, and completing the FAFSA with the FAFSA PIN(s) will aid in faster processing.

Once the FAFSA data are processed and received by the Office of Financial Aid, admitted students will be contacted through their Wright State e-mail address to complete needed information to award financial aid on their Wings Express account. Students will then receive a followup e-mail to inform them when their financial aid award is available for review on their Wings Express account.

Students should also check their Wings Express account for any requirements that may be needed to finalize their financial aid award. Financial aid awards are based on the student's budget, registered hours for the quarter, and financial need as determined by the FAFSA (if filed).

Scholarships

Wright State University's undergraduate scholarship program is committed to recognizing students who have demonstrated excellent academic ability, involvement in extracurricular activities, and creative talent. First-year student undergraduate scholarships are awarded in three categories: academic performance, competitive honors, and talent. Other first-year student scholarships are awarded through colleges and miscellaneous departments. Scholarships range from \$500 to \$17,000 a year, and most are renewable for four years. For scholarship details and applications, visit Wright State's Financial Aid Web site at <http://www.wright.edu/finaid/>. Click on "Types of Aid" for scholarship links.

First-Year Student Academic Performance Scholarships

Academic Performance Scholarships are awarded to National Merit finalists, semifinalists, and commended scholars; National Achievement finalists, semifinalists, and outstanding participants; valedictorians and salutatorians; and on the basis of ACT/SAT scores, class rank, and high school GPA. Students must apply for admission to Wright State by February 15 to be reviewed for Academic Performance Scholarship eligibility.

First-Year Student Competitive Honors Scholarships

Competitive Honors Scholarships are awarded through a scholarship application process. Students who apply are selected based on their ACT/SAT scores, class rank, high school GPA, PSEO transcript if applicable, letters of recommendation, essay, extracurricular activities, and oftentimes an interview. Students must apply for admission to Wright State and complete the scholarship application requirements by the deadline date of January 15.

Talent Scholarships

Talent Scholarships are awarded through an application and audition or portfolio process to students who demonstrate outstanding talent in theatre, dance, music and art. For specific scholarship information, please contact the department in your area of study.

Other First-Year Scholarships

For additional information on scholarships awarded through colleges, as well as miscellaneous awards available to first-year undergraduate students, please refer to the Financial Aid Web site at www.wright.edu/finaid/.

Transfer Students

Transfer students can apply for scholarships by completing the Transfer Student Scholarship application. Transfer Competitive Scholarships have a February 15 deadline, while Transfer Associate Degree Scholarships have a June 15 deadline.

Scholarships for Continuing Undergraduate Students

Scholarships are awarded on a competitive basis to academically talented students who complete the Wright State Academic Scholarship Application for Continuing Undergraduate Students. Continuing students must have earned hours and a "competitive" cumulative GPA, both earned at Wright State. The University Scholarship Committee, college and department scholarship committees are comprised of faculty and staff members and make these award decisions. Scholarships range from \$300 to \$11,000 and are usually one-year awards. Applications are available in January each year through Wright State's Financial Aid Web site or through the Office of Financial Aid. The deadline to apply is March 1. If a scholarship is need-based, the student must file the Free Application for Federal Student Aid (FAFSA) by February 15.

Athletic Scholarships

Students who wish to participate in athletics at Wright State and are interested in scholarships from their chosen sport, should contact the Office of Athletics at Wright State in the sport they are considering.

Wright State University Scholarship Listing

Wright State University provides financial support for scholarships. Funding is also available through the Wright State University Foundation based on the generosity of many individuals, organizations, foundations, and memorial funds. Below is a list of scholarships available to students who meet specific criteria. Most scholarship descriptions can be found on the Office of Financial Aid Web site or through appropriate departments. Scholarships are awarded on an "as funds are available basis."

Raj Soin College of Business

Accountancy Awards & Scholarship
Accounting Leadership Program Scholarship
AITP MIS Scholarship
Dr. Norm Anon Memorial Scholarship Fund
Dr. Peter W. Bacon Scholarship
Battelle and Battelle Scholarship
James W. Blain Scholarship
Brower Insurance Agency Endowed Scholarship
Business Alumni Scholarship
Dayton-Wright Chapter Armed Forces
Communications and Electronics Association

Scholarship
Deloitte & Touche Accounting Excellence
Scholarship
Thomas Dovel Memorial Scholarship
Daniel W. Duvall-Robbins & Myers Scholarship
Eastman Kodak Company Endowed Scholarship
Ecole Atlantique Program Scholarship
Economics Scholarship
Economics Tuition Scholarship
Ernst & Young Scholarship
Finance Club Scholarship
Finance Scholarship
Flagel, Huber, Flagel & Company Scholarship
William L. Gans Scholarship
Gillispie Family Scholarship
David S. & Marcia D. Gutridge Business
Scholarship
Russell Hereth Scholarship
Information Systems and Operations Management
Scholarship
International Business Major Scholarship Fund
International Raj Soin College of Business
Scholarship
J. P. Morgan Chase Bank Program
Junior Leadership Dayton Scholarship
William J. Kane Scholarship Fund
Daniel J. Kaufman Memorial Scholarship
Jerry L. Kirby Fifth Third Bank Scholarship
Thomas Kreusch Family Endowed Scholarship
Rishi Kumar Endowed Scholarship
Log/Supply Chain Management Scholarship
Howard L. Magner Accountancy Scholarship
Management Department Scholarship
Marketing Scholarships
Steven Mason Business Scholarship
Tejasvi Mateti Memorial Scholarship Fund
Morris Furniture Company, Inc. Scholarship
Naum Scholarship
Jacob B. & Vera O. Paperman Scholarship
Denny and Sharon Phillips Scholarship Fund
Pohlman and Talmage Scholarship
Raj Soin College of Business Scholarship
Margaret "Peggy" Rike Scholarship Fund
Robbins & Myers Endowed Scholarship
Rust and Cheri Gray Scholarship
William I. Schoenfeld Scholarship
Jo Ann Self Memorial Scholarship
Speedway SuperAmerica Business Scholarship
Barbara Kirk Stickney Scholarship
Student Audit Program Award
Sharon Sutton Endowed Scholarship
Sweeney Family Finance Scholarship
Thein Financial Group Award
Thomas D. Weeda Memorial Scholarship
WSU Collegiate Spirit Marketing Scholarship
The Xceli Group Scholarship
Yes Scholarship

College of Education and Human Services

Adapted Physical Education Scholarship
David M. Berry Memorial Endowed Scholarship

Angeline Owens Combs Scholarship
 Dillehay-Graham Education Scholarship
 Early Childhood Education Scholarship
 Education and Human Services Scholarship
 Samuel T. Harris Memorial Scholarship
 Betty K. Hathaway Scholarship
 Intervention Specialist Scholarship
 Catherine Maurer Haverstock Scholarship
 Health, Physical Education, and Recreation
 Scholarship
 Mini University Scholarship
 Ellen Scherer Memorial Education Scholarship
 Jerry Sturm Memorial Scholarship
 Teacher Education Scholarship
 Volksporing Scholarship

College of Engineering and Computer Science

Adams-Robinson Construction Company Endowed
 Scholarship-Wright STEPP
 Amcast Industrial Engineering Scholarship
 Robert Appenzeller Engineering Scholarship
 Becker Electric Company Scholarship
 Biomedical Engineering Scholarship
 John H. Birden and Kenneth C. Jordan EG&G
 Mound Scholarship
 James & Sharon Brandeberry Endowed Scholarship
 Lester and Delilah Buechler Scholarship
 Anthony J. Cacioppo, Ph.D Memorial Scholarship
 CECS Achievement/Research Scholarship
 Computer Engineering Scholarship
 Computer Science Scholarship
 Dayton-Wright Chapter Armed Forces
 Communication and Electronics Association
 Scholarship
 Virginia Arlene Di Flora Memorial Scholarship
 Daniel W. Duvall-Robbins & Myers Scholarship
 Eastman Kodak Company Endowed Scholarship
 Harold E. "Doc" Edgerton EG&G Mound Memorial
 Scholarship
 Electrical Manufacturing and Coil Winding
 Association, Inc. Scholarship
 Electrical Systems Engineering Scholarship
 Engineering and Computer Science Scholarship
 Fifth Third Bank Endowed Wright STEPP
 Scholarship for Women
 Gasper Corporation Endowed Scholarship
 William Randolph Hearst Endowed Scholarship-
 Wright STEPP
 Human Factors Scholarship
 IEEE Dayton Scholarship
 International Science and Engineering Fair
 Scholarship
 Cary Michael Jokela Memorial Scholarship
 Kittyhawk Dan Graves Association of Old
 Crows Chapter Scholarship
 Lockheed Martin Scholarship
 MacAulay-Brown Co-op Scholarship
 Materials Science and Engineering Scholarship
 Mechanical Systems Engineering Scholarship
 Modern Industrial Plastics Endowed Scholarship
 Harry W. & Margaret Moore Memorial Scholarship
 Mosier Scholarship

Heinz P. Murka Scholarship
 NSF – Year Round Scholarship
 Ervin J. Nutter Scholarship
 OAI Cost Share Program
 Ohio Space Scholarship
 Robbins & Myers Endowed Scholarship
 Speedway SuperAmerica Engineering Scholarship
 Standard Register Scholarship-Wright STEPP
 Supply One Corporation Scholarship
 William H. Wahlert Memorial Scholarship
 Isaac Weiss Memorial Scholarship
 Charles. F. & Dorothy E. Wittlinger Dayton View
 Optimist Club Scholarship
 The Wright STEPP Scholarship
 WSU/SAE Engineering Scholarship
 The Xcelso Group Scholarship

College of Liberal Arts

African & African-American Studies Scholarship
 Alumni Association Scholarship Fund for Theatre Arts
 Art Department Scholarship
 Arts Gala-Art Scholarship
 Arts Gala-Music Scholarship
 Arts Gala-Theatre Arts Scholarship
 Augsburg/Estevez Scholarship
 Bassett-Woodwind Scholarship
 Richard Blazer Endowed Scholarship
 Brower Insurance Agency Endowed Scholarship
 Cameos of Caring Music Scholarship
 Eugene B. Cantelupe Liberal Arts Scholarship Fund
 Choral Music Scholarship
 Carol H. Cline Endowed Scholarship/Award
 Communications-Alumni Scholarship
 Community Outreach Partnership Center Individual
 Development Scholarship
 Cheryl Craigie and John Britt Endowed Scholarship
 Donald K. David Scholarship
 Dayton Ballet Scholarship
 Dayton Chamber Music Society Scholarship
 Brenda June Denlinger Music Scholarship
 Sylvia Jeanne Denlinger Music Scholarship
 Robert B. Dorris, Jr. Memorial Scholarship
 Dunbar Poetry Scholarship
 Early Impact Ensemble Scholarship Fund
 Harry G. and Martha B. Ebeling Scholarship
 ELM Art Scholarship
 English Scholarship
 Faculty Academic Scholarship
 Harley Flack Memorial Piano Scholarship
 Janice J. Gabbert Classics Scholarship
 Geography Endowed Scholarship
 Goldfarb Music Scholarship
 Clark Haines Music Award
 Tom Hanks Scholarship Fund
 Val P. Hattemer Scholarship for Music Students
 Gregory Burdette Heuser Memorial Scholarship
 History Scholarship
 Hong Kong Exchange Scholarship
 Ronald F. Hough Scholarship
 Jose Jimenez Prize for Best Student in Latin History
 Paul & Phyllis Katz Chamber Orchestra & Piano
 Scholarship
 William and Cynthia King Scholarship Fund
 Kimm Kiser Scholarship Fund

Gerald and Rita Kurdila Scholarship
 Marie T. and W.C. Lafferty Scholarship
 Leap Scholarship Fund
 Liberal Arts Leadership Scholarship
 Liberal Arts Scholarship
 Liberal Arts Study Abroad Scholarship
 Joan W. McCoy Memorial Art Scholarship Award
 Gary M. McDaniel Memorial Scholarship
 Modern Languages Scholarship
 Perry Moore Scholarship Fund
 Music Scholarships
 Park Hills Viking Guard Scholarship
 Pep Band Scholarship
 David G. Poff Scholarship
 Political Science Scholarship
 President's Chamber Orchestra Scholarship
 President's Endowment for Art/Art History
 Students Scholarship
 President's Endowed Scholarship for Music
 Students
 President's Scholarship Endowment for Musical
 Theatre and Dance
 Robert Pruett Communications Scholarship
 Religion Scholarship
 Rising Star Scholarship
 Jon Rodriguez Dance Scholarship
 Dr. William A. Rogers and Molly K. Lafferty
 Scholarship
 Irene Romanowski Music Scholarship
 Caroline Scholz Muse Machine Scholarship
 Beatrice and Mitchell Singer Scholarship
 Ralph H. and Marilyn K. Smith Scholarship
 Social Work Scholarship
 Sociology/Anthropology Scholarship
 Charles R. Spinney Music Composition
 Scholarship
 Robert M. Stofer Memorial Music Award
 Sucher Chamber Orchestra Scholarship
 Cornelius Martin Summerbridge Scholarship
 Theatre Arts Fund
 Theatre Arts Talent Scholarship
 Bernice A. Tjossem Theatre Arts Scholarship
 Urban Affairs Scholarship
 Audley and Barbara Wasson Music Scholarship
 Ellen Wiedemann-Berger Memorial Award
 Margorie Wilson Woodwind Music Scholarship
 Fund
 WTUE Sandy Patton Endowed Scholarship

College of Science and Mathematics

Neil Acharya Memorial Scholarship
 American Mathematics Contest 12 Scholarship
 Dr. Merrill L. Andrew Memorial Scholarship
 Howard E. Bales Memorial Scholarship
 Biological Sciences Scholarship
 Michael A. Bruck Memorial Scholarship
 Cargill Chemistry Scholarship
 Chemistry Scholarship
 Robert G. Chollar Scholarship

Compunet Clinical Laboratories Scholarship
 Harry Davis Memorial Scholarship
 Dayton-Wright Chapter Armed Forces
 Communications and Electronics Association
 Scholarship
 Dr. Jean T. and Phyllis Nussy Dubois Memorial
 Scholarship
 Environmental Science Scholarship
 Funkhouser Self-Starter Award
 Geological Sciences Scholarship
 Krishan K. Gorowara Memorial Scholarship
 Edgar Hardy Ph.D. Chemistry Scholarship
 David J. Karl Memorial Scholarship
 Kittyhawk Dan Graves Association of Old Crows
 Chapter Scholarship
 Nicholas Koussa Memorial Scholarship in
 Medical Technology
 Ervin B. Lacy II Memorial Scholarship
 Math Scholarship
 Ohio Wildlife Scholarship
 Richard Page Memorial Scholarship
 Physics Scholarship
 Psychology Scholarship
 John D. and Helen V. Rossmiller Scholarship
 Leslie Sayre Endowed Scholarship Fund
 Science Apprenticeship Scholarship
 Science and Math Scholarship
 State Science Day Scholarship
 The Xeelsi Group Scholarship
 YSI Environmental Science Scholarship

College of Nursing and Health

The Virginia Hamilton Adoff Memorial Nursing
 Scholarship
 American Legion Batdorf Memorial Scholarship
 The Elta Mae Biles Memorial Scholarship Fund
 Cameos of Caring Scholarship
 College of Nursing Scholarship
 Dayton Association of Orthopedic Nurses
 Scholarship
 Ruth N Layman Nursing Scholarship
 The Lois F. Renner Lucero Memorial Scholarship
 Anita and Frank Martinez Hispanic Nursing
 Scholarship
 Mildred Lewis Patterson and Mildred Patterson
 Miller Scholarship
 Montgomery County Medical Society Alliance
 Scholarships
 Jane Swart Memorial Scholarship
 Robert A. & Veronica B. Sweeney Family
 Scholarship
 Sarah Anne Thompson Memorial Nursing
 Scholarship
 Bernice A. Tjossem Memorial Scholarship
 William Brent Turner Scholarship
 Undergraduate Nursing Student Scholarship-
 Annual Essay Competition
 The Sondra K. Zinser Nursing Scholarship

University College

Adult Incentive Scholarship
C. J. McLin Scholarship
Anne Shearer-Steele Scholarship
University College Scholarship

Lake Campus

Academic Excellence Scholarship-WOEF/WSU
Lake Campus Associate Degree Scholarship
Lake Campus Scholarship
Lake Campus Transfer Scholarships
Western Ohio Educational Foundation Scholarship (WOEF)

Miscellaneous Scholarships

Adapted Recreation Scholarship
Adult Continuing Student Scholarship
African American Alumni Society Scholars Fund
Air Force ROTC Scholarship
Alumni Association Legacy Scholarship
Arby's/Lee's Famous Recipe Annual Scholarship
Army ROTC Scholarship
Asian Student Scholarship
Edward G. Austin, D.D.S. Beavercreek 2000 Scholarship
Baldwin & Whitney Insurance Agency Scholarship
BAM Endowed Scholarship
Barnes & Noble College Bookstore Scholarship
Justin R. Beason Scholarship
Beta Phi Omega Scholarship
Bolinga Cultural Resources Center Scholarship
Buckeye Trails Girl Scout Scholarship
Center for Teaching and Learning Student Employee Fund
Centerville Women's Civic Club Scholarship
Classified Staff Advisory Council Staff Scholarship
Classified Staff Advisory Council Student Scholarship
Collegiate Scholarship
Lorna G. Dawes Student Union Achievement Award
Dayton Power & Light Company Scholarship
Distinguished Senior Honors Awards
DMCSP/WSU Match Scholarship
Domino's Pizza Scholarship
Paul Laurence Dunbar Scholarship
Wilda Murray Ehrenfried Scholarship for Women With Children
M. Emrick Scholarship
Fairborn Lyons Scholarship
Susan and Jerome Fetsko Scholarship
First Year Recognition Scholarship
Harley Flack Memorial Scholarship
Golden Key Scholarship
Kim and Shelley Goldenberg Scholarship Fund
Green and Gold Scholarship

Norman K. Hanselmann Memorial Scholarship
Paula Anna Hasinger Scholarship
Sarah Harris Scholarship
Dorothy Ward Hayes Scholarship
James B. Heider, Jr./Timothy A. Best Memorial Scholarship
Heritage Scholarship-Honors
Charles H. Hewitt GED Scholarship
Hillel Organization Scholarship
Hispanic Student Scholarship
Honors Ambassador Scholarship
Honors Competitive Scholarship
Honors Research Scholarship
Horizons in Medicine Scholarship
Hungarian Ancestry Scholarship
Dorothy P. Jackson Valedictorian/Salutatorian Scholarship
Harry P. Jeffrey Scholarship
Allen Jones Scholarship
Dwight Kemp Memorial Scholarship
KeyBank Scholarship
Martin Luther King Jr. Scholarship
Elenore A. Koch International Award
Bud Langden Memorial Fund
Library Student Award
George W. Lucas Memorial Minority Scholarship
Madrigal Dinner Scholarship
Captain Kevin M. Maguire Memorial Scholarship
Mathile Family Foundation Scholarship
Georgio McBeath Memorial Scholarship
Beatrice McGhee Memorial Scholarship
Leo and Mary Menke Memorial Scholarship
Miami Valley Classic Book Club Scholarship-Honors
Minority Students with Disabilities Scholarship
Montgomery County Medical Society Scholarship
Native American Student Scholarship
Ted C. Nelson Scholarship for Veterans
Gregg Nischwitz Scholarship
ODS Honors Scholarship
Robert Oelman Scholarship
Office of Disability Services Scholarship
Ohio Lions Foundation Helen Keller Scholarship
Open House Scholarship
Organization for Black Faculty and Staff (OBFS) Scholarship
Out-of-State Scholarships
Parents Association Scholarship
John H. Patterson Valedictorian/Salutatorian Scholarship
2nd Lieutenant Eric M. Payton Scholarship
Phi Kappa Phi Scholarship
Phi Theta Kappa Scholarship
President's Bolinga Center Scholarship
President's Endowed Scholarship-Women's Center
Presidential Scholarship
President's Scholarship Endowment for Students
Raider Scholar
Registrar's Office Student Employee Fund

Residence Service Scholarship
 Rike Family Foundation Scholarship-Transfer
 Students with Associate Degree
 Frank L. Salsburg Memorial Honors Scholarship
 Truman O. Schardt Scholarship
 Oma K. Sells Honors Scholarship
 Daisy A. Shellhouse Scholarship
 Shepard Family Scholarship Fund
 Brian Skelton Scholarship
 Doug and Mary Stout Endowed Scholarship
 Student Government Scholarship
 Student Legal Services Scholarship
 Student Union Scholarship
 Wayne E. Tjossem Scholarship
 Transfer Competitive Scholarship
 Transfer Honors Associate Degree Scholarship
 Valedictorian/Salutatorian Scholarship
 George Vernoooy Independence Award
 Millie Waddell Scholarship
 WBDT-TV/WSU Scholarship
 Frederick A. White Endowed Scholarship
 Frederick A. White Prize
 Woods Scholarship
 Wright State Organization for Women Scholarship
 (WOW)
 Wright State Scholar
 WSU Commended Scholarship
 WSU National Scholarship
 WSU Retirees Association Scholarship
 WSU Semifinalist Scholarship
 Peggy L. Wynkoop Scholarship

Grants

Grants are forms of gift aid that are not repaid. They are available to undergraduate students and are based on financial need. The Ohio Instructional Grant and Ohio College Opportunity Grant are available to students who are residents of the state of Ohio and attend college full time. Students who are eligible for the Ohio Instructional Grant, but will be attending part time, will receive their eligibility through the Ohio Part-time Student Instructional Grant program. Students must apply through the Free Application for Federal Student Aid (FAFSA).

To be considered for the Pell Grant, Supplemental Educational Opportunity Grant, Federal Academic Competitiveness Grant, and Federal SMART Grant, students must complete and submit the Free Application for Federal Student Aid (FAFSA).

Priority Consideration

To receive priority consideration for the Federal Supplemental Grant, Perkins Loan, Federal Nursing Student Loan, and/or Work-Study, students must meet the priority filing deadline for FAFSA and demonstrate exceptional financial need on the basis

of the **Free Application for Federal Student Aid (FAFSA)**. The FAFSA must be submitted to the Federal Processing Center on or before February 15, with Wright State listed to receive the processed data.

Loans

Loans, which are repaid starting six months or nine months after graduation or termination of half-time (six hours) studies, are available to both undergraduate and graduate students. For information on applying for the low interest (five percent) Perkins Loan, refer to the paragraph above on priority consideration.

Consideration for the Subsidized and/or Unsubsidized Stafford Student Loan (fixed interest rate of 6.8 percent) is initiated by completing the Free Application for Federal Student Aid (FAFSA).

Students who are officially admitted to the Wright State-Miami Valley College of Nursing and Health are eligible to apply for the Federal Nursing Student Loan. The Federal Nursing Student Loan has a five percent interest rate, and repayment begin nine months after graduation or termination of halftime (six hours) nursing studies. For information on applying for the Federal Nursing Student Loan, refer to the paragraph above on priority consideration.

Student Employment

Student employment is available to students who wish to work to help finance their education or just to earn extra spending money. Students can obtain information about job opportunities through Career Services. For on-campus jobs, students may be employed through the Federal Work-Study Program or the Regular employment program. For information on applying for Federal Work-Study, refer to the paragraph on priority consideration. There are no financial eligibility requirements for students who wish to work under the Regular employment program. Student Employment has a job board for posting part-time off-campus positions and opportunities in community service, as well as online postings at <http://career.wright.edu>.

Registration

After new students have met with their advisor, they are ready to register for classes. Registration information and dates are announced in the quarterly class schedule and online at <http://www.wright.edu/registrar/>. Once students have advisor permission (if required), they may register online through Wings

Express or in person at the Office of the Registrar.

Continuing students who have been registered any time during the previous year can find specific registration dates and times by referring to their Registration Information Checklist online at <http://wings.wright.edu> or in the quarterly class schedule. Students can access their schedules and grades, and more, on Wings Express.

Bursar

The Office of the Bursar has responsibility for receipting all student and other university monies, including the administration and collection of institutional and federal loan programs. In addition, treasury services, tax compliance, and auxiliary services (vending and Wright I card) also report to this department.

Paying Fees

The procedures for paying fees depend on which registration period is used. Students will find fee payment deadlines for each registration period in the university calendar by visiting the Office of the Bursar Web site at <http://www.wright.edu/bursar/>. Students who register during the early registration period but do not submit their payment by the required due date will have their registration cancelled in order to make classroom space available to other students. Students who register during the open registration period must pay their fees by the published fee payment deadline. Their registration will not be cancelled for non-payment. Failure to make a payment or a late payment will result in a \$50 late fee. Late pay fees are assessed three times during a quarter. See the Registrar's Web site at <http://www.wright.edu/registrar/> or the quarterly class schedule for refund and drop/withdrawal dates. Wright State University reserves the right to make policy and fee changes at any time during the year.

Students are encouraged to pay fees through WINGS Express via WINGS at <http://wings.wright.edu>. WINGS Express allows students to view and manage their account online. In WINGS Express students may view their fee statement, view current account activity, make online payments, enroll in direct deposit, and add authorized users. Students are encouraged to set up direct deposit for refunds. Students are also encouraged to add parents as authorized users so they may access Bursar account information and make payments. Paper bills are no longer mailed to students. Fee statements are generated at the end of each month and during the first few days of the month a notification e-mail is sent to students' WSU e-mail and to authorized users reminding them that the new fee statement is available. Students may access their online fee

statement by logging on to WINGS Express via WINGS at <http://wings.wright.edu>.

Students have the option of using the Student Installment Payment Plan (SIPP) which allows them to pay their fees in three installments over the quarter, rather than making a single payment at the beginning of the quarter. For a \$30 nonrefundable fee, students pay one-third of the fees by the published fee payment deadline. The balance is divided into two installments, which are payable at the established dates about 30 days apart. There is a \$50 late fee for each payment that is received after the established due date. Further information about SIPP is available at <http://www.wright.edu/admissions/bursar/sipp.html> or by contacting the Office of the Bursar. Students may enroll and pay SIPP payments through WINGS Express via WINGS at <http://wings.wright.edu>. Check or Money Order SIPP payments can be mailed or paid in person at the Office of the Bursar.

Students have the following options for payment of fees: Students may pay online using E-Check/ACH free of charge. Students may also pay online using a credit card. The university accepts Mastercard, Discover, and American Express. A 2.75% convenience fee will be assessed to pay with credit card. Credit cards are only accepted online. Students can send check or money order payments to WSU Office of the Bursar, 3640 Colonel Glenn Highway, Dayton, OH 45435. Students can pay in person at the Bursar Fee Payment windows in E236 Student Union using check, money order, or cash. Students may also place payments in the drop box located in the hall adjacent to the Bursar Fee Payment windows. Mailed payments must be received by the fee payment deadline in order to prevent the cancellation of registration or the assessment of a late fee. Checks or money orders should be made payable to Wright State University and sent to the attention of the Office of the Bursar. Checks should be written for the exact amount due. Incorrect checks will be returned to the sender and registration will proceed on schedule only if a replacement check for the correct amount is received by the published due date. The university will not accept postdated checks. There is a \$25 charge for each check returned to the university.

If a student's fees are paid by an agency or sponsor, financial aid, or a fee waiver it is the student's responsibility to ensure that these payments are arranged before the fee payment deadline.

Financial accounts may be audited at any time. If an error is identified, a bill or refund will be issued. The university will issue a refund within 30 days or apply the credit to the account. If students do not make acceptable arrangements to pay any amount due within 30 days, their current quarter's registration may be canceled. Students are responsible for all charges assessed to their

account. All accounts that are referred to collections are subject to reasonable collections cost, including attorney fees and other charges necessary for the collection of any amount not paid when due.

Wright1 Cards

You must have a Wright1 Card to borrow library materials, use the Nutter Center and the Fitness Center, purchase a meal plan, and carry out other activities on campus. Wright1 Cards are available from the Wright1 Card Center, E146 Student Union (937) 775-5542. You must be enrolled as a student and present a valid driver's license (or other photo ID, such as a passport) to obtain a Wright1 Card. Students have the option to deposit funds into their Wright1 Card flexible spending account to minimize the amount of cash they need to carry. Wright1 Cards may be used at various campus locations, including all food service locations, Wright State Bookstore, Wright Copy Center, Dunbar Library, all Computer Lab Print Wright Release Stations, Parking Services, WSU Pharmacy, Student Union Box Office, Student Union Recreation Desk, and most campus beverage, snack, and copy machines. Residents of Hamilton Hall, Forest Lane, and the Woods may also use their Wright1 Card at the laundry facilities. Deposits to the flexible spending account may be made at any Value Transfer Station (VTS), at the Bursar Fee Payment and Deposit windows, or online on the Academic Tab on Wings at www.wings.wright.edu. An authorized parent can also make deposits online at www.wright.edu/admissions/bursar by clicking on the "Info for Parents" link.

Students are responsible for immediately reporting lost or stolen cards. Students can visit the Academic Tab on the Wings Web site at www.wings.wright.edu to suspend a lost or stolen Wright1 Card or can call the Wright1 Card Center at (937) 775-5542, where a "hold" will be placed on the student's card to block any further usage. Wright1 Card Center hours are Monday through Friday 8:30 a.m. to 5 p.m. The Wright1 Card is permanent and does not need to be renewed each quarter. For further information, please visit the Wright1 Card Web site at www.wright.edu/wright1card

Summary of Services and Office Phone Numbers

Admission Information:

Office of Undergraduate Admissions,
(937) 775-5700

Financial Aid Information:

Office of Financial Aid, (937) 775-5721

Placement Testing dates, locations, exemptions:

University College, (937) 775-5750

Advising Appointments:

(call student's assigned advising unit)
University College, (937) 775-5750
Academic Advising and Transfer Services,
(937) 775-5777;

Course, Registration, and Refund Information:

Office of the Registrar, (937) 775-5588

Fee Payments:

Office of the Bursar, (937) 775-5650

Academic Support:

- For individual or group help:
Tutoring Services, (937) 775-2280;
Writing Center, (937) 775-4186
- For courses in study skills and/or fundamental math, reading, and writing:
Developmental Education, (937) 775-5770
- For disabled students adapting to college:
Office of Disability Services, (937) 775-5680
- For students age 25 or older returning to school:
Academic Advising and Transfer Services,
(937) 775-5777
- For intensive English instruction for nonnative speakers of English:
LEAP Program, (937) 775-2505

ACADEMIC STANDARDS AND REQUIREMENTS



Requirements for a Bachelor's Degree

To graduate with a bachelor's degree from Wright State University, all students must fulfill the following requirements:

Credit Hours—A minimum of 183 credit hours must be earned in approved courses.

Grade Point Average—A minimum cumulative GPA of 2.0 must be earned for courses taken at Wright State University.

General Education—The university's general education requirements must be completed.

Writing Across the Curriculum—The university's Writing Across the Curriculum requirements must be met.

Residence Regulations—A minimum of 45 credit hours must be earned at Wright State University. Credit by evaluation will not be considered as residency credit. At least 15 of the last 45 hours of credit must be earned at Wright State. A minimum of 30 hours of courses numbered 300 or above must be earned at Wright State.

Students must also fulfill all program requirements set by departments, colleges, and schools, some of which exceed these university minimums; see individual program requirements for details. Advisors in University College and in the colleges and schools are available for information and guidance in formulating programs of study.

Responsibility for registering in appropriate classes, scheduling, and fulfilling all university and program requirements for graduation rests with the student.

Students who are continuously enrolled or eligible to enroll continuously (students are eligible to enroll continuously if they are enrolled during any part of the calendar year) may elect to meet either the university requirements that were in effect when they entered Wright State or the university requirements that came into effect while they were continuously enrolled. Students who were not enrolled continuously must meet the university requirements in effect when they were readmitted to the university.

Students must meet the college or school requirements in effect when they are admitted to the college or school, and they must meet the program requirements in effect when they are admitted to a specific program or major. Students who are not enrolled continuously may be required to meet the college, school, or program requirements in effect when they are readmitted to a program. In addition,

students who have not completed their program in seven years may have their college, school, or program requirements revised.

Writing Across the Curriculum (WAC)

In addition to ENG 101 and 102, students must complete a minimum of six designated Writing Intensive (WI) courses, four in General Education (GE) and two in the major. Effective fall 1996, this requirement applies to all new students and transfer students, and to returning students who were last enrolled at Wright State summer quarter 1995.

Writing Across the Curriculum in General Education

In addition to ENG 101 and 102, all undergraduate students must complete at least four Writing Intensive (WI) general education courses or allowable substitutions.* GE Writing Intensive courses will be available within a number of areas, including (but not limited to) the following: Area II (all Non-Western World classes); Area III (SOC 200, WMS 200, EC 290, and some sections of EC 200); Area IV (all Great Books classes); Area V (some classes); Area VI (all classes). Students completing the 1987 General Education program may count Writing Intensive courses in the 2003 GE program toward fulfilling their writing intensive requirements.

* WI sections of the approved General Education substitution courses are available. Students should consult with an academic advisor before registering for a GE substitution course.

Writing Across the Curriculum in General Education-Requirements for Transfer Students

Transfer students who have completed the Ohio Transfer Module will be considered as having met the Writing in GE requirements. Transfer students who have completed at least 75 percent (40 hours) of the Transfer Module may meet the Writing in GE requirement by completing one Writing Intensive GE course. Transfer students who have completed less than 75 percent (40 hours) of the Transfer Module must complete the university's General Education requirements, including the Writing in GE requirement, as follows: students with 50 percent to 74 percent (28-39 hours) of General Education completed must successfully complete two WI courses, in addition to English 101 and 102; those with 25 percent to 49 percent (14-27 hours) of General Education completed must successfully complete three WI courses, in addition to English 101 and 102; and those with less than 25 percent (fewer than 14 hours) of General Education completed must successfully complete

four designated WI courses, in addition to English 101 and 102.

When students cannot complete four Writing Intensive courses in General Education, they may apply credit from a third Writing Intensive course in the major, if available. No Writing Intensive course in the major will be counted toward both General Education and writing in the major requirements. Transfer students who do not successfully complete the WAC requirements may satisfy the requirements for writing proficiency in GE by completing the appropriate substitution described in Alternative Ways of Meeting WAC Requirements.

Writing Across the Curriculum in General Education-Requirements for Returning Students

Returning students who were last enrolled at Wright State summer quarter 1995 and who have not completed the General Education requirements must complete the Writing in General Education requirements as follows: students with at least 75 percent (40–56 hours) of General Education completed must successfully complete one WI course, in addition to ENG 101 and 102; those with 50 percent to 74 percent (28–39 hours) of General Education completed must successfully complete two WI courses, in addition to ENG 101 and 102; those with 25 percent to 49 percent (14–27 hours) of General Education completed must successfully complete three WI courses, in addition to ENG 101 and 102; and those with less than 25 percent (fewer than 14 hours) of General Education completed must successfully complete four Writing Intensive courses, in addition to ENG 101 and 102.

When returning students who still need Writing Intensive credit in General Education courses have already taken earlier versions of General Education courses now designated as Writing Intensive, those students may apply credit from a third Writing Intensive course in the major, if available. No Writing Intensive course in the major will be counted toward both General Education and writing in the major requirements.

Returning students who do not successfully complete the requirements above may satisfy the requirements for writing proficiency in GE by completing the appropriate substitution described in Alternative Ways of Meeting WAC Requirements.

Writing Across the Curriculum in the Major

WAC in the major requires students to complete at least two WI courses in their major field. Successful completion of ENG 101 and 102 is a prerequisite for all WI courses in the major. All incoming first-year students, transfer students, and returning students who were last enrolled at Wright State summer quarter 1995 must complete

this portion of WAC for their degree requirements. Beginning fall 1996, WSU graduates returning to take a second degree must complete at least two WI courses in the new major.

Students pursuing a dual major may have the writing requirements for the second major waived at the discretion of the department or college.

Alternative Ways of Meeting WAC Requirements

Students who do not successfully complete the WI portion of four GE courses (excluding ENG 101 and ENG 102) may satisfy the requirements for writing proficiency in GE in any one of the following three ways: (1) pass the WI portion of at least two GE courses and earn a grade of C or better in an approved advanced writing course; (2) pass the WI portion of at least two GE courses and prepare an acceptable portfolio that includes writing on demand; (3) earn a grade of C or better in an approved advanced writing course and prepare an acceptable portfolio that includes writing on demand. Students should consult with their academic advisor to determine the most appropriate means of satisfying this requirement.

To fulfill the WI requirements in the major, students may, under rare circumstances, complete an Independent Writing Project or a designated WI independent reading course to fulfill only one of the two-course requirements in the major. This option requires the approval of the department chair and is not available to students for fulfilling the GE requirement.

Second Degrees

Students who hold a baccalaureate degree from an accredited institution, including Wright State, and who wish to earn a second baccalaureate degree at Wright State, must satisfy the requirements of the department and college that houses the second degree.

Residency Regulation—Students earning a second degree must earn at least 45 hours beyond the minimum hours required for the first degree. At least the last 45 hours of course work must be taken at Wright State, 23 hours of which must be in courses numbered 300 and above. Credit by evaluation will not be considered as residency credit.

Graduating With Latin Honors

Policy for Students First Enrolled Prior to Fall 2006

Undergraduate students with outstanding academic records are recognized at commencement. Three distinctions are made:

summa cum laude (Latin for *with highest honors*) recognizes a cumulative GPA of at least 3.8; magna cum laude (with *high honors*) indicates a cumulative GPA of at least 3.6; and cum laude (with *honors*) indicates a final cumulative GPA of at least 3.4.

Academic honors are based on meeting the minimum honors GPA requirement for work attempted at Wright State University, as well as for all transfer college work attempted, as of the end of the term in which the student graduates (that is, by the day on which term grades are due). In calculating cumulative GPAs for the purpose of graduating with honors, only the first grade earned for a course will be counted. This recalculation of the GPA may result in the loss of honors status at graduation. To be eligible for academic honors at graduation, students must have earned at least 45 credit hours at Wright State University. Contact the Registrar's Office for further information.

Policy for Students First Enrolled Beginning Fall 2006

Undergraduate students with outstanding academic records are recognized at commencement. Three distinctions are made: summa cum laude (Latin for *with highest honors*) recognizes a cumulative GPA of at least 3.9; magna cum laude (with *high honors*) indicates a cumulative GPA of at least 3.7; and cum laude (with *honors*) indicates a final cumulative GPA of at least 3.5.

Academic honors are based on meeting the minimum honors GPA requirement for work attempted at Wright State University, as well as for all transfer college work attempted, as of the end of the term in which the student graduates (that is, by the day on which term grades are due). In calculating cumulative GPAs for the purpose of graduating with honors, only the first grade earned for a course will be counted. This recalculation of the GPA may result in the loss of honors status at graduation. To be eligible for academic honors at graduation, students must have earned at least 45 credit hours at Wright State University.

Students who hold a baccalaureate degree from an accredited institution, including Wright State, and who earn a second baccalaureate degree at Wright State per the academic policy requirements for second degrees, are eligible for academic honors. Academic honors are based on all course work at Wright State University attempted for the second degree following and excluding the first degree course work. Only the first grade earned for a course in the second degree course work will be counted. Contact the Registrar's Office for more information.

Applying for Degrees

Before graduating, students must submit an application for a degree. See the current class schedule for specific deadline dates. Those who do not complete the graduation requirements in time must file another application for a later graduation.

Students who complete their degree requirements during winter or spring quarters participate in the June commencement. Those who complete their degree requirements during summer or fall quarters participate in the November commencement.

Scholastic Policies

Wright State is on the quarter system. The academic year is divided into three quarters (fall, winter, and spring) and a summer session. Classes are assigned values in quarter credit hours. The credit hour is based on 50 minutes of instruction each week for one quarter, although there are exceptions. Laboratory courses usually require considerably more time for each quarter hour of credit. Students should carefully plan their academic program with an advisor, especially if they are also working while going to school. However, students are responsible for registering in appropriate classes, scheduling, and fulfilling all university and program requirements for graduation.

The minimum full-time undergraduate load is 12 credit hours per quarter, with the average between 14 and 17 credit hours.

Students enrolled in the typical 10-week course may drop or withdraw from the university without grades through the third week of the quarter, or its equivalent. These courses will not be recorded on transcripts. From the fourth through seventh weeks, or their equivalents, students may drop a course or withdraw, but the course and a designation of "W" will appear on their records. (Students should see the quarterly class schedule for the exact drop and withdrawal dates.) After the withdrawal date, students need to successfully petition to drop; otherwise, the course will appear on their records with a grade.

Students enrolled in courses whose duration is less than 10 weeks have earlier drop dates. Drop dates for these flexibly scheduled courses will be determined by the Registrar and published in the instructor's syllabi.

Grading System

Academic achievement is indicated by the following letter grades and points used in calculating GPAs.

- A** Excellent—4 points per credit hour
- B** Good—3 points per credit hour
- C** Satisfactory—2 points per credit hour
- D** Poor—1 point per credit hour
- F** Failed—0 points per credit hour
- X** Student did not complete course or officially withdraw—0 points per credit hour

A student's GPA at Wright State is obtained by dividing the number of points the student has earned at Wright State by the total number of hours the student has attempted, excluding the following symbols, which appear on student records but are not used in computing GPAs:

- L** Audit—given only if arranged when the student registers
- N** No report—the instructor did not report a grade
- P** Passing—indicates work of C quality or better; given only for specifically approved courses
- M** Satisfactory progress on a project—final grade assigned upon completion of the project
- T** Attendance in honors courses. Those hours are not counted toward graduation. Not used effective fall 1998.
- U** Unsatisfactory performance

Incomplete—given only when part of the required work is missing and arrangements have been made with the instructor to complete the work. The instructor must submit an incomplete grade contract at the time the grade is submitted to the Office of the Registrar. If the work is not completed by the end of the following quarter, or earlier if required by the instructor, the I grade automatically is converted to an F and the grade point is recalculated, unless the instructor submits another I grade. Work for an Incomplete received spring quarter does not have to be completed until the end of the following fall quarter if the instructor does not indicate an earlier date on the Incomplete grade contract.
- W** Withdrew—given for courses from which the student officially withdrew, that the student dropped during the fourth through seventh week of classes or equivalent, or for which the student successfully petitioned for withdrawal.

Grade reports are available online at <http://wings.wright.edu>. Students who notice any discrepancy on their reports should contact the Office of the Registrar within 30 days after the end of the term.

The Wright State University grading system does not award “+” and “-” grades. Students transferring courses and associated grades to Wright State University from institutions under a “+” and “-” grading system will be evaluated and receive a transfer grade based on the Wright State University grading system. For example, grades of C+, C, or C- will be evaluated as a C for transfer to Wright State University.

Grades for Writing Intensive Courses in Writing Across the Curriculum

To receive WI credit, students must complete the writing component of the course with a grade of C or better. Writing Intensive grades are entered separately from course grades on students' transcripts, as “P” (pass) or no entry. For students passing the writing component of the course, both the grades for the course and the WI component will appear on the transcript and permanent record. If a student fails the writing component, only a grade for the course will appear.

Students may pass both components of the WI course, pass the course but fail the writing component, or pass the writing component but fail the course itself. A student who passes the writing component but fails the course may receive credit for fulfilling the writing requirement but may/will still need to repeat the course to fulfill the major or general education requirement. Students who do not pass the writing component of a WI course must still satisfy the WAC requirements. Students should consult with their academic advisor to determine the most appropriate means of satisfying this requirement.

Academic Standing

Student Classification

Undergraduate students are classified by the total number of credit hours they have earned at Wright State plus any transfer credits that have been accepted by the university.

Freshman	0–44.9 hours
Sophomore	45–89.9 hours
Junior	90–134.9 hours
Senior	135 hours or more

Dean's List

Students who attain high GPAs during a quarter are placed on the Dean's List. To be named to the list, students must have at least a 3.4 GPA for the quarter; have completed for the quarter at least 12 hours of credit for courses in which they have

received grades of A, B, or C; and cannot have received a grade of F, X, D, I, U, T, M, or N. The categories for the Dean's List are: 3.4–3.59, honors; 3.6–3.79, high honors; and 3.8–4.0, highest honors.

Good Standing

Students who have earned a cumulative GPA of 2.0 or higher, or who have not been on probation for more than two consecutive quarters, are considered to be in good standing.

Probation

Scholastic action is determined on the basis of cumulative GPA. When a student's cumulative GPA drops below 2.0, the registrar takes scholastic action by placing the student on probation. Students will not be placed on probation until they have attempted six or more credit hours. Whenever students subsequently attain a cumulative GPA of at least 2.0, they are removed from probation.

Students who are on probation must have their advisor's approval of their course selection before they register for classes. Advisor approval is also required for all drop-add transactions. The student's course load may be limited if the advisor feels such a restriction is necessary. The advisor may also require the student to complete counseling, remedial work, and course repeats; restrict enrollment; and complete other steps.

Scholastic actions are determined on the basis of quarter hours computed in the Office of the Registrar. Since credit hours for transfer, proficiency, and grades of M, P, and I are not used in computing quarter and cumulative averages, they are not considered in determining scholastic action.

Petitioning for Exceptions

Exceptions to scholastic regulations may be petitioned to the Undergraduate Petitions Committee. Petition forms are available in most academic department offices and in the Office of the Registrar. These forms are filed in the Registrar's office.

Students petitioning to drop a class with a grade of W or completely withdraw from a quarter must submit the petition to the registrar's office before the end of the quarter in which the withdrawal is requested. Petitions submitted after the quarter has ended will, if approved, remove only the hours and points from the student's GPA. In this case, the course and original grade will remain a part of the student's record. Students should consult with their academic advisor before submitting a petition.

Repeating and Auditing Courses

Repeating Courses

Courses counted as part of the first 45 credit hours (including transfer hours) can be repeated if the grade earned was a D, F, or X. The course may be repeated until the student has achieved a grade of at least a C. Only the last attempt for each course will be counted in the cumulative GPA, as long as it is completed no later than the quarter in which the first 60 credit hours are earned (exception: or until the course is offered again, if ever, during the regular academic year). However, each grade received for a repeated course will become a part of the student's permanent record.

After the first 45 hours (including transfer hours), students may repeat any course in which they earned a grade of D, F, or X until they have achieved at least a grade of C. Each grade will become part of the permanent record and will be counted in the cumulative GPA.

Students may repeat courses in which they have earned a grade of A, B, or C in order to increase their knowledge or to meet program requirements, but the hours and points for the repeat will not be calculated in their hours earned or in the determination of their cumulative GPA. Neither will the hours or points be used to meet graduation requirements.

Students in those program units where the repeat policy is more rigorous than that of the university shall follow the policy of that department, college, or school.

In calculating cumulative GPAs for the purpose of graduating with honors, only the first grade earned for a course will be counted.

Students may not repeat a course after graduation in order to alter their final GPA at the date of graduation. They may repeat a course later, but the second grade will not affect their undergraduate GPA.

Auditing Courses

If class space permits, a student may audit a course, with written approval from the instructor before enrolling. The amount of participation required of auditing students is left to the discretion of the instructor, but it cannot exceed that required of a regular student. The student may not use audited courses to establish full-time status, and the student may not change his or her registration from audit to credit or from credit to audit after the fifth business day of a regular 10 week quarter or day two of a short term.

Dismissal and Readmission

Dismissal from the University

Students who remain on probation for two quarters may be dismissed from the university for unsatisfactory academic performance. Also, students enrolled in study skills classes who do not successfully complete more than one half of their developmental course work over a period of three quarters will be subject to dismissal. Dismissal action is taken by the chief academic officer of the college, school, or division to which the students are assigned, in consultation with the head of the respective program unit or the academic advisor. In taking dismissal action, the academic officer will generally consider the student's progress toward meeting degree requirements, as well as overall academic performance.

Notice of dismissal from the university will be sent directly to the student by the chief academic officer of the college, school, or division to which that student is assigned.

Readmission

Students who have been dismissed will not be permitted to enroll for any courses at the university for a full calendar year (four consecutive quarters, including summer quarter). Readmission is not automatic. After a period of dismissal, students must submit an application and petition for readmission. Readmission petition forms may be obtained from, and must be submitted through, the Office of Undergraduate Admissions. Readmission petitions are reviewed by the Office of Undergraduate Admissions in consultation with the chief academic officer of the appropriate college or division. Readmitted students are continued on mandatory advising. Students who are readmitted following academic dismissal may be subject to special requirements to remove academic deficiencies as determined appropriate by the college, school, or division.

Readmission under Fresh Start Policy

An undergraduate student who re-enrolls in the university after an absence of three or more years (12 consecutive quarters) may request the university to recalculate the cumulative grade point average and hours earned during the period of previous residency. This application must be made through the dean or director of the student's enrollment unit.

If the application is approved, all courses taken remain on the permanent record; however, only those courses with grades of A, B, C, or P are counted for credit. No other grades are counted for credit as hours toward graduation or as meeting either university general education requirements or program requirements.

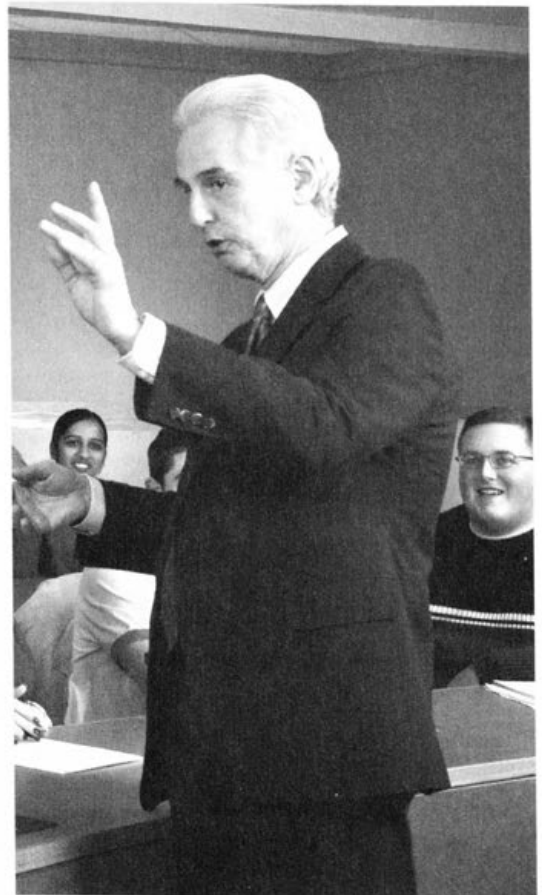
If the application is approved, the student resumes an academic program with no cumulative grade point average for the period to which the Fresh Start applies. For the purposes of scholastic action and advising, however, the student initially is assigned to the same scholastic standing as when he/she last attended the university. Thereafter, the student is subject to the conditions of probation and dismissal that govern all students.

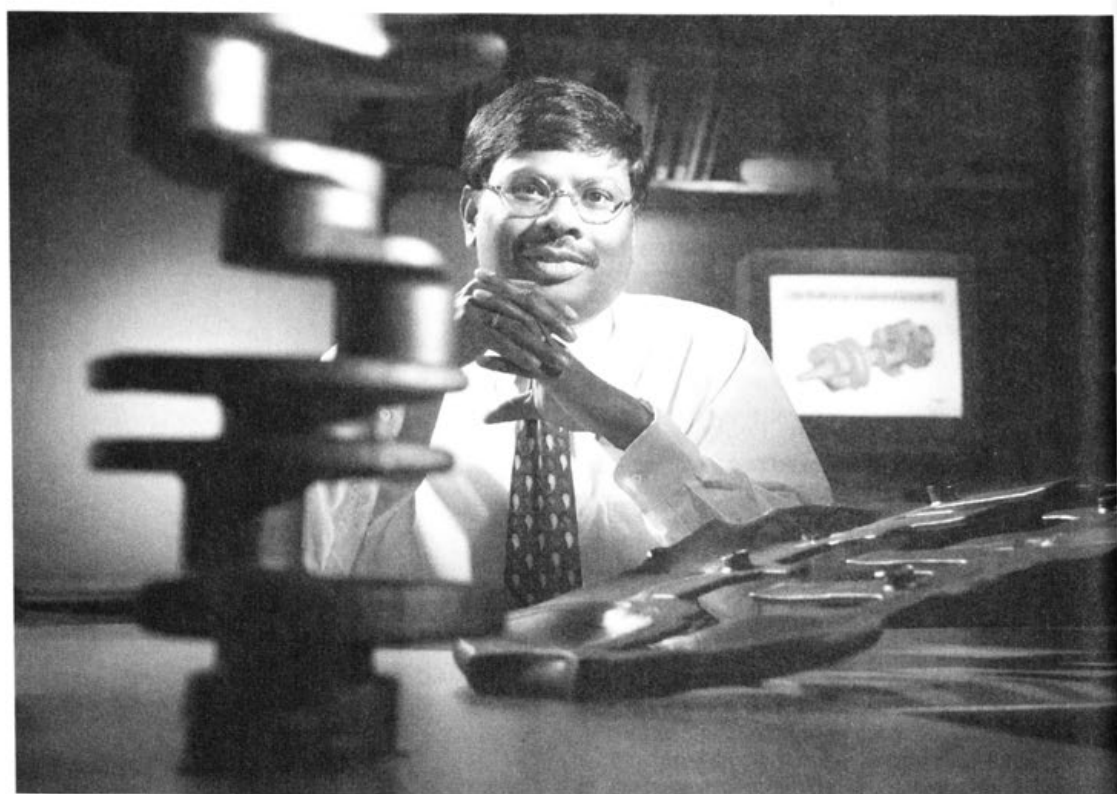
Under the provisions of this rule, a student must be re-enrolled before graduation for a minimum of forty-five quarter credit hours and three academic quarters after the Fresh Start has been applied to the academic record.

All courses ever taken at the university will be used in the calculation of the cumulative point-hour ratio required for the purpose of determining graduation with Honors.

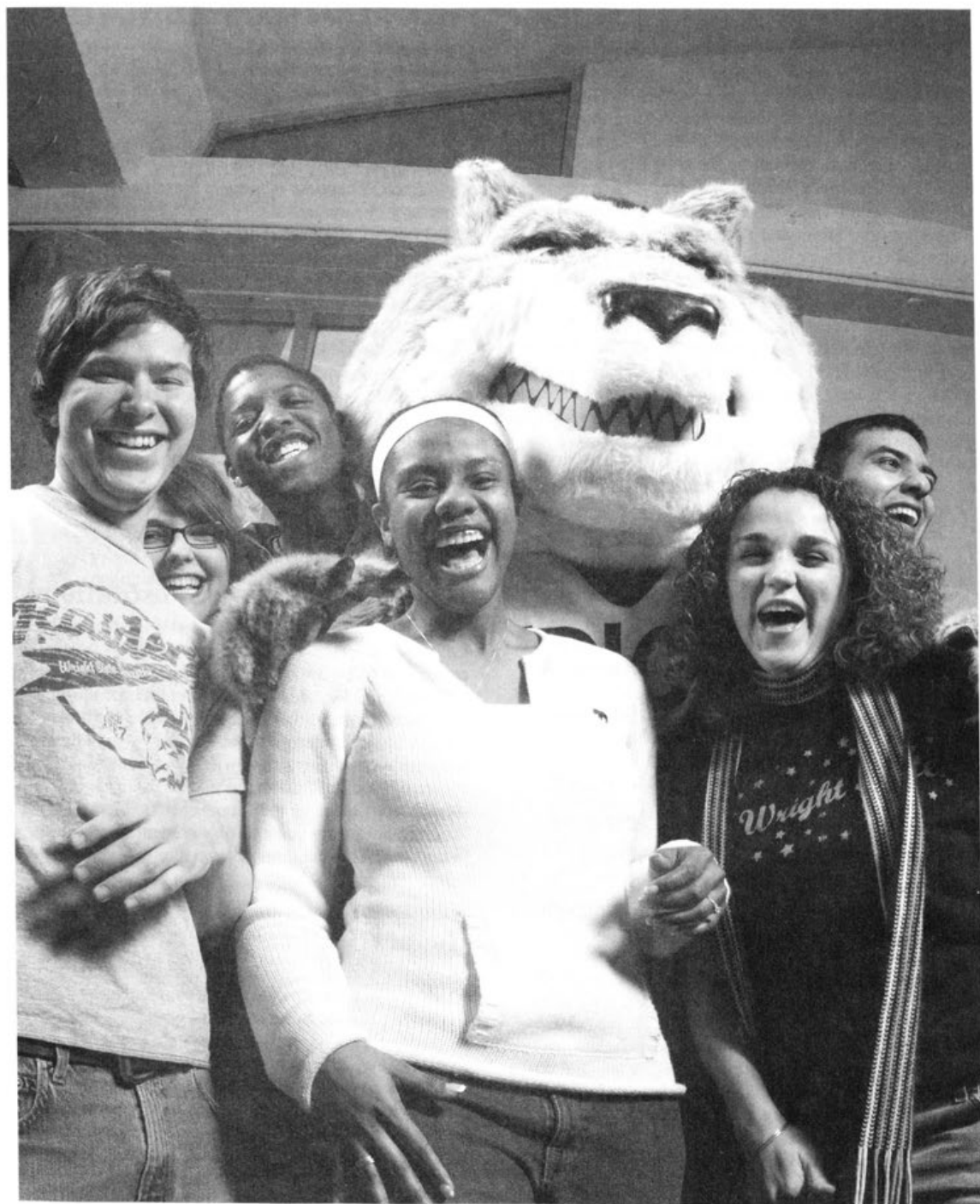
A student is eligible for only one Fresh Start at the undergraduate level.

Students who have earned a baccalaureate or an associate degree from Wright State University are not eligible for the Fresh Start at the undergraduate level.





GENERAL EDUCATION REQUIREMENTS



General Education at Wright State

As a part of the requirements for a baccalaureate degree at Wright State University, students must complete a minimum of 56 hours of course work in the General Education program. The specific requirements are listed below and must be completed prior to graduation. Students should complete English 101 and 102 and the General Education mathematics requirement by the time they have earned 60 credits at Wright State University.

A bachelor's degree awarded by a university implies more than career preparation or specialized technical competency. A university education should be broadly based in order to promote intellectual growth, cultivate critical examination and informed understanding, encourage breadth and flexibility of perspective, and provide students an opportunity to develop skills and knowledge that will form the basis for their life-long learning. Accordingly, the General Education program at Wright State University is a planned and coherent program that is designed to help students:

- sharpen critical thinking, problem solving, and communication skills;
- learn about the aesthetic, ethical, moral, social, and cultural dimensions of human experience needed for participation in the human community;
- increase knowledge and understanding of the past, of the world in which we live, and of how both past and present have an impact on the future.

The General Education Program is required of all students and serves as a foundation upon which all baccalaureate programs are built.

Writing Across the Curriculum (WAC) in General Education

In addition to ENG 101 and 102, all undergraduate students must complete a minimum of four writing intensive (WI) general education courses, or allowable substitutions.* GE writing intensive courses will be available within a number of areas, including (but not limited to) the following: Area II (all Non-Western World classes); Area III (SOC 200, WMS 200, EC 290, and some sections of EC 200); Area IV (all Great Books classes); Area V (some classes); Area VI (all classes). Students completing the 1987 General Education program may count writing intensive courses in the 2003 GE program toward fulfilling their writing intensive requirements.

Transfer and returning students should consult the Writing Across the Curriculum information in the Academic Standards and Requirements section of the Undergraduate Catalog or meet with their academic advisor to determine the number of WI classes (if any) needed to complete the WAC in General Education requirement.

*WI sections of approved General Education substitution courses are available. Students should consult with an academic advisor before registering for a GE substitution course.

Registration for Writing Intensive Courses

Each WI course is clearly identified in the quarterly class schedule. When registering for a WI course, students must also register for the writing component of the course, a 0-credit hour lab. Students may not drop a WI course and lab separately.

Alternatives for Meeting WAC Requirement

Students who do not successfully complete the WI portion of four GE courses (excluding ENG 101 and ENG 102) may satisfy the GE requirement in other ways. Students should consult the Writing Across the Curriculum information in the Academic Standards and Requirements section of the Undergraduate Catalog or contact an academic advisor for information on these options.

General Education Substitutions

Substitutions can be made for some General Education courses. Some major programs—as well as the preprofessional programs for premedical and pre dental students (consult the Preprofessional Programs information in the Academic Programs section of the Undergraduate Catalog)—may have program requirements that will affect a student's choice of General Education courses. Approved substitutions listed in the General Education Program below are open to any student as an option to the General Education course with which they are listed.

Honors Sections

Honors sections of General Education courses are available for both entering freshmen and continuing Wright State students who meet Honors Program criteria. Honors sections are limited to an enrollment of 20; encourage student participation; offer more sophisticated and complex assignments; and provide greater opportunities for analysis, synthesis, and creative expression. Honors students may also choose to substitute UH 201, 202, and 203 for some General Education Areas and courses (these are designated in the General Education

Program below in Areas III, IV, and V). For more information consult the University Honors Program information in the Academic Programs section of the Undergraduate Catalog.

General Education Program

Area I—Communication and Mathematical Skills

12 Hours

Area I requirements help students enhance abilities central to academic success, including the abilities to write appropriate academic conventions and to formulate and interpret mathematical models.

English Composition I and II

ENG 101-4 Academic Writing and Reading

ENG 102-4 Writing in Academic Discourse

(Grade of “C” or better in ENG 101 required)

Mathematics* (RS)

MTH 145-4 Mathematics and the Modern World†
(DEV 095 or equivalent or at least level three on the math placement test required)

*Substitutions: MTH 143 † or MTH 228 or MTH 229 and 230 or STT 264 † and 265 or STT 160†.

†This course does not count toward completion of the Ohio Transfer Module.

Area II—Cultural-Social Foundations

8 Hours Minimum

Select one course from each category:

Area II requirements help students develop a historical perspective on their own culture, an understanding of cultures beyond their own and an awareness of the realities of global interdependence.

History (RS)

CLS 150-4 Introduction to Greek and Roman Culture

HST 101-4 Ancient and Medieval Europe

HST 102-4 Early Modern Europe: 14th through 18th Centuries

HST 103-4 Modern Europe: 19th and 20th Centuries

The Non-Western World (WI)

CSE 250-4 Comparative Non-Western Economic Systems

CST 221-4 Comparative Non-Western Environments

CST 231-4 Comparative Non-Western Literature

CST 232-4 Comparative Non-Western Religions

CST 241-4 Comparative Non-Western Cultures

CST 242-4 Comparative Non-Western Cultures: Music

CST 243-4 Comparative Non-Western Cultures: Art

CST 251-4 Comparative Non-Western Social Systems

HLT 202-4 Eastern Influences on Western Health

RSE 260-4 Regional Economic Studies: Pacific Rim

RST 261-4 Regional Studies: Japan†

RST 262-4 Regional Studies: China

RST 271-4 Regional Studies: Africa

RST 281-4 Regional Studies: Latin America

RST 291-4 Regional Studies: Middle East

URS 200-4 Growth and Change in Urban Society

†This course does not count toward completion of the Ohio Transfer Module.

Area III—Human Behavior (RS)

8 Hours Minimum

Select two courses from different categories:

Area III requirements help students develop the skills to examine critically the complexity of human behavior and institutions through systematic analysis.

Economics (WI)

EC 200-4* Economic Life (some sections are WI)

EC 290-4 Economic, Business, and Social Issues

* Sequence substitution: EC 204 and 205 (neither is WI).

Political Science

PLS 200-4 Political Life

Psychology

PSY 105-4 Psychology: The Science of Behavior

Sociology (WI)

SOC 200-4 Social Life

WMS 200-4 Approaches to Women's Studies

Substitution: Honors course UH 202 for any one Area III course.

Area IV—Human Expression (RS)

4 Hours Minimum

Select one course:

Area IV requirements will help students develop an intellectual and aesthetic appreciation of significant artistic works and of important literary, religious, and philosophical texts. Students will explore how such works express both personal vision and cultural concerns. They will also examine the specific means writers, composers and creative and performing artists adopt to communicate with their audience.

Great Books (WI)

CLS 204-4 Great Books: Classical Beginnings

ENG 204-4 Great Books: Literature

PHL 204-4 Great Books: Philosophy

REL 204-4 Great Books: Religion

Fine and Performing Arts

ART 214-4 Visual Art in Western Culture

MUS 214-4* Music in Western Culture

MUS 290-4 (WI) African American Music:
America and Beyond

TH 214-4 Theatre in Western Culture

MP 131-4 Film Appreciation

*Sequence substitution: MUS 121 and 122.

Area Substitution: Honors course UH 201† (WI)
for Area IV.

†This course does not count toward completion
of the Ohio Transfer Module.

Additional Courses from Areas II, III, and IV

8 Hours

This component provides students the opportunity for in-depth study and thus the opportunity to strengthen understanding and competencies in two of three areas.

Select two additional courses from Areas II, III, or IV—one course each from two of these three areas. Except for Area II, the course selected must come from a different subcategory than the course(s) chosen to meet that area requirement.

Area V—Natural Sciences (RS)

12 Hours

Select three courses (lecture and lab):

At least one must be WI (some section offerings are WI)

Area V courses emphasize scientific inquiry as a way to discover the natural world, and they explore fundamental issues of science and technology in human society.

Biology*

BIO 105-4 Introductory Biology: Food

BIO 106-4 Introductory Biology: Biodiversity

BIO 107-4 Introductory Biology: Disease

* Sequence substitution: BIO 111, 112, and 115.

Chemistry*

CHM 105-4 Chemistry of our World: Living
Things

CHM 106-4 Chemistry of our World: Materials

CHM 107-4 Chemistry of our World: Energy and
the Environment

* Sequence substitution: CHM 121/125,
122/126, and 123/127; or CHM 102, ANT 301,
and ANT 311 (or CHM 102, ANT 201, and ANT
202)

Geology*

EES 105-4 The Planet Earth

EES 106-4 The Evolving Earth

EES 107-4 The Earth and Human Affairs

* Sequence substitutions: EES 251/252, 253/254,
and 255/256.

Physics*

PHY 105/115-4 Sounds and Colors

PHY 106/116-4 Planetary Astronomy

PHY 107/117-4 Stars, Galaxies and the Cosmos

* Sequence substitutions: PHY 111/101 †,
112/102 †, and 113/103 † or PHY 240/200,
242/202, and 244/204.

Substitution: Honors course UH 203 for any one
Area V course, **but not** for a program science
requirement.

Additional Area V sequence substitutions: BIO
345, CHM 245 or 246, EES 345 and PHY 245 or
246; BIO 107, HPR 250, and HPR 251.

†This course does not count toward completion
of the Ohio Transfer Module.

Area VI - College Component (RS; WI; T)

4 Hours

Select one course specific to the college of your major:

Area VI requirements link general education more closely with study in the major, thereby making more apparent the applicability and transferability of general competencies to specialized study.

College of Education and Human Services

- CNL 210-4 Understanding Emotional Intelligence †
- ED 210-4 Education in a Democracy †
- RHB 210-4 Introduction to Alcohol and Drugs †

College of Engineering and Computer Science*

- EGR 190-4 Fundamentals of Engineering and Computer Science**†
- ISE 210-4 Engineering Perspectives †

*Majors in this college may be able to select other Area VI courses; consult the major program advisor.

** Required of students admitted to this college with 45 or fewer quarter hours; students admitted with more hours must select another Area VI course approved by the department advisor.

†This course does not count toward completion of the Ohio Transfer Module.

College of Liberal Arts

- AFS 200-4 What is African and African American Experience?
- ATH 241-4 Introduction to Physical Anthropology
- ATH 242-4 Introduction to Archaeology
- CSE 250-4 Comparative Non-Western Economic Systems
- CLS 204-4 Great Books: Classical Beginnings
- CLS 260-4 Introduction to Classical Mythology
- CST 221-4 Comparative Non-Western Environments
- CST 231-4 Comparative Non-Western Literature
- CST 232-4 Comparative Non-Western Religions
- CST 241-4 Comparative Non-Western Cultures
- CST 242-4 Comparative Non-Western Cultures: Music
- CST 243-4 Comparative Non-Western Cultures: Art
- CST 251-4 Comparative Non-Western Social Systems
- EC 290-4 Economic, Business, and Social Issues
- ENG 204-4 Great Books: Literature

- HST 200-4 Western Europe and Non-Western World
- HST 220-4 Introduction to Gender History
- HST 221-4 American Diversities
- MUS 290-4 African American Music: America and Beyond
- PHL 200-4 Critical Thinking
- PHL 204-4 Great Books: Philosophy
- REL 204-4 Great Books: Religion
- RSE 260-4 Regional Economic Studies: Pacific Rim
- RST 261-4 Regional Studies: Japan †
- RST 262-4 Regional Studies: China
- RST 271-4 Regional Studies: Africa
- RST 281-4 Regional Studies: Latin America
- RST 291-4 Regional Studies: Middle East
- SOC 200-4 Social Life
- SW 272-4 Cultural Competence in a Diverse World†
- TH 250-4 Script Analysis
- URS 200-4 Growth and Change in Urban Society
- WMS 200-4 Approaches to Women's Studies

†This course does not count toward completion of the Ohio Transfer Module.

Raj Soin College of Business

- EC 290-4 Economic, Business, and Social Issues
- FIN 205-4 Personal Financial Decision Making†

College of Science and Mathematics*

- EES 260-4 Environmental Science and Society
- PSY 110-4 Psychology: The Science of Behavior II
- SM 205-4 Great Ideas in Science†

* Majors in this college may be able to select other Area VI courses; consult the major program advisor.

†This course does not count toward completion of the Ohio Transfer Module.

WSU-Miami Valley College of Nursing and Health

- HLT 201-4 Human Expressions of Health†
- HLT 202-4 Eastern Influences on Western Health†
- HLT 203-4 The Languages of Health Data†
- NUR 212-4 Nursing for Health and Wellness Lifestyle†

†This course does not count toward completion of the Ohio Transfer Module.

Total Hours Required

56

Descriptions of individual courses are available in the Course Descriptions section of the catalog.

RS = A required substitution or a required selection is possible; consult major program requirements.
WI = Writing Intensive courses. EC 200 (Area III) and Natural Sciences courses (Area V) offered as WI may vary from quarter to quarter; consult quarterly class schedule for WI offerings.
T = Students who complete an Area VI course in one college and then transfer to another may not need to take another Area VI course. Consult with the college to determine its transfer policy.

† This Course does not count toward completion of the Ohio Transfer Module
Note: A course listed in two areas may be used to meet only one area requirement.

General Education Learning Objectives

(Approved: Faculty Senate May 1, 2000)

Program Learning Objectives

The General Education Program is broadly based in order to promote intellectual growth, cultivate critical examination and informed understanding, encourage breadth and flexibility of perspective, and provide students an opportunity to develop skills and knowledge that will form the basis for their life-long learning. Accordingly, the General Education program at Wright State University is a planned and coherent program that is designed to help students:

- sharpen critical thinking, problem solving, and communication skills;
- learn about the aesthetic, ethical, moral, social, and cultural dimensions of human experience needed for participation in the human community;
- increase knowledge and understanding of the past, of the world in which we live, and of how both past and present have an impact on the future.

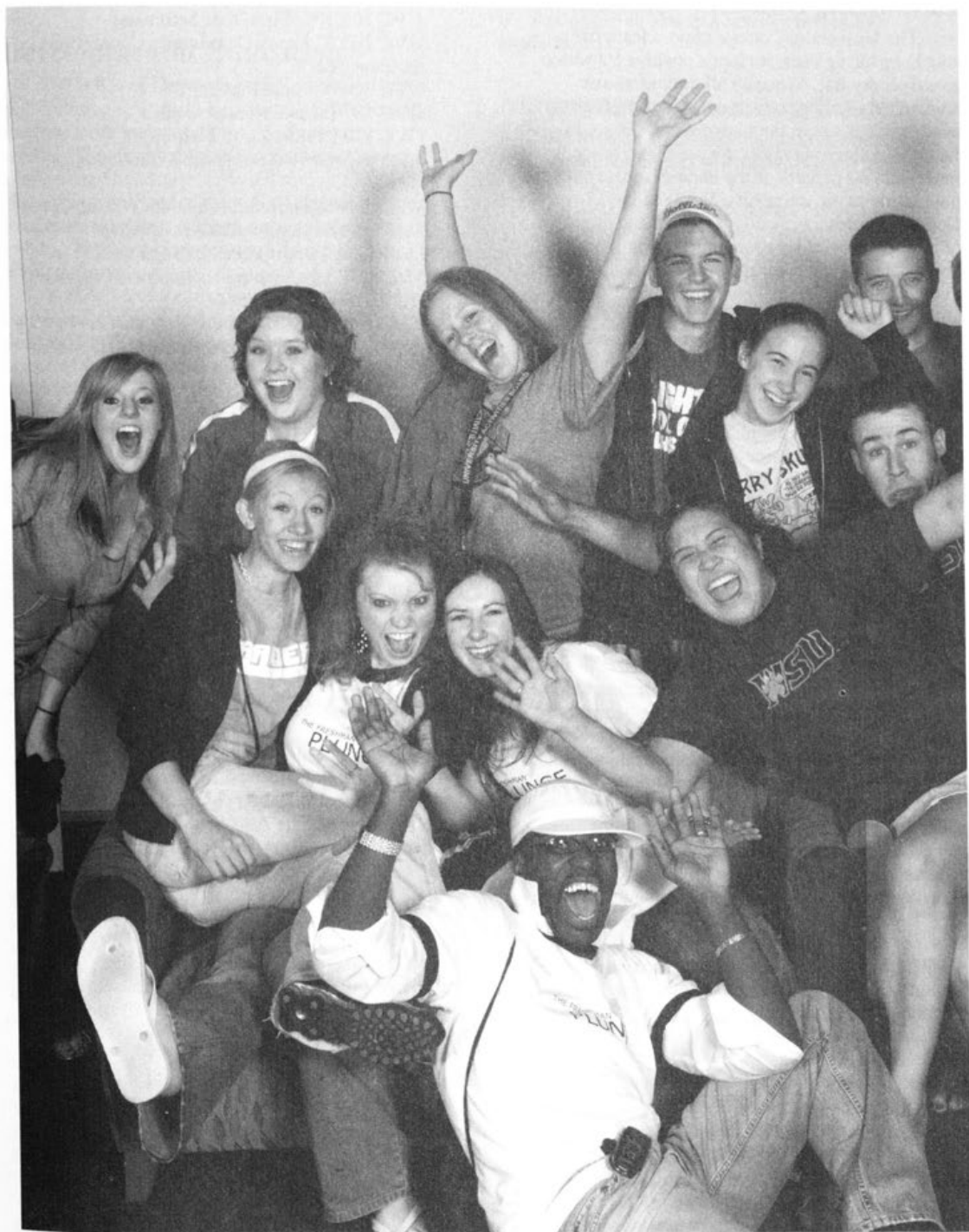
The General Education Program is required of all students and serves as a foundation upon which all baccalaureate programs are built.

Learning Objectives: At the completion of the Wright State University General Education Program a student will be able to do the following:

Area Learning Objectives

Area	Learning Objectives
I. Communication and Mathematical Skills English Composition Mathematics	a. use writing processes to explore, think, and learn, and to write appropriately for various tasks and audiences b. develop logical and fair arguments, and observe appropriate writing conventions c. show ability to identify main ideas and evaluate, analyze and synthesize primary and secondary sources d. use, formulate and interpret mathematical models e. summarize and justify analyses of mathematical models or problems using appropriate words, symbols, tables and/or graphs
II. Cultural-Social Foundations History The Non-Western World	a. describe and analyze historical social elements of western culture b. describe and analyze historical social elements of nonwestern culture c. describe and analyze the global interdependence of groups and of individuals
III. Human Behavior Economics Political Science Psychology Sociology	a. use multiple approaches perspectives to systematically analyze complex individual and institutional behavior culturally, subculturally, and/or crossculturally b. recognize appropriate ethical uses of social scientific knowledge
IV. Human Expression Great Books Fine and Performing Arts	a. recognize and critically discuss significant creative, philosophical and religious works b. understand the complex blend of personal vision, social-cultural background, ethical values and aesthetic judgement in such works c. discuss the diverse means of communication in such works
V. Natural Science Biology Chemistry Geology Physics	a. understand the experimental basis of scientific inquiry b. understand the importance of model building for understanding the natural world c. understand the theoretical, practical, creative and cultural dimensions of scientific inquiry d. discuss some of the fundamental theories underlying modern science e. understand the dynamic interaction between society and the scientific enterprise f. recognize appropriate ethical uses of knowledge in the natural sciences
VI. College Component	a. communicate with individuals who are in the student's major, in allied fields, and non-specialists b. understand important relationships and interdependencies between the student's major and other academic disciplines, world events or life endeavors Or c. additionally meet the objectives of Area I, II, III, IV, or V.

UNIVERSITY COLLEGE



University College

Enhancing Students' Success

The University College plays a leadership role in ensuring each student's positive transition to university life. Virtually all undergraduate students, including transfer students, begin their academic careers in the University College. In fact, the college serves as the academic home for more than 40 percent of the undergraduate student population at the university. While in the University College, students typically complete the majority of their General Education and Writing Intensive requirements, and meet the entrance requirements to their college. The college also exemplifies the university's long-standing commitment to foster each student's individual academic success. The University College provides academic advising; tutoring and testing services; leadership development programs; basic courses in writing, mathematics, and college study strategies; and coordinates the First Year experience, including First Weekend and learning communities. The University College works hard to create a welcoming atmosphere for new students through many activities and programs, but also works to ensure that students are academically prepared to pursue an appropriate major in one of the university's six degree-granting colleges.

Helping Students Adapt to University Life

One of the most important responsibilities of the University College is to work with the campus community to help students successfully adapt to university life as quickly as possible. Successful adaptation ensures that as many students as possible return to the university for their sophomore year and subsequent years of study. The college helps students adapt by providing critical services and programs that ensure students become acclimated to campus, achieve academic success, and move as quickly as possible into an appropriate major of study.

Services and Programs

The University College helps students succeed through a variety of services and programs, including:

- Academic advising
- Learning communities
- A comprehensive first year experience including placement testing, Summer On-Campus Advising and Registration (SOAR), Convocation, First Weekend and community service/civic engagement

- Academic success programs: Wright on Track, Phoenix, PASS (Preparing for Academic Success Seminar)
- Courses: DEV 082, 083, 092, 093, 095 (writing and mathematics)
UVC 100 (College Study Strategies)
UVC 101, 102 (First-Year Seminars)
UVC 103 (Campus Community Connections in the First Year)
UVC 104 (Critical Reading)
UVC 107 (Stress Management)
UVC 110 (Returning to Learning)
- Math assistance through the Math Learning Center
- Writing consultation through the Writing Center
- Tutoring and supplemental instruction
- Leadership opportunities through the C. J. McLin, Jr. Leadership Development Program and UC Student Council

Research shows that these programs are having a very positive impact on student success at Wright State University.

Academic Advising and Transfer Services

Academic Advising and Transfer Services (AATS) advisors help students develop academic success strategies, become oriented to the university, and select and schedule classes. During advising, students are given information about appropriate academic services, such as tutoring or Developmental Education courses, and referrals to offices that provide specialized support for students, such as the Office of Disability Services, the University Honors Program, and the Student Academic Success Center. In addition, advisors help degree-seeking students focus on their university General Education requirements and fulfill the admission requirements of their intended majors. The AATS staff also teach the First-Year Seminar and facilitate learning communities for their students. Once admitted to a major, students are no longer advised in the University College but are supported by college and department advisors.

AATS advisors assist students with understanding college admission requirements, evaluations of transfer credits, and referrals to resources. Handouts and brochures are available. Adult students who are 23 or older and are returning to college after a break in their education can take UVC 110, Returning to Learning, for help with study skills, stress management, and time management.

Student Academic Success Center

Developmental Education

The office of Developmental Education offers skill-building courses in basic writing, fundamental English, basic mathematics, and elementary algebra. The scores obtained from the university-administered placement tests determine appropriate placement into these courses. Students taking fundamental writing courses are also scheduled to spend at least one hour per week in the University Writing Center.

In addition to writing and basic math, students are encouraged to enroll in College Study Strategies and the First-Year Student Seminar. One credit hour is earned for the strategies course and two credit hours for the seminar. For each of the other skill building courses, three to six hours of credit can be earned.

University Writing Center

The University Writing Center provides free writing consultation. Undergraduate and graduate students are available to help students with every stage of the writing process and with assignments across the curriculum. Students may also receive help using one of the center's networked computers.

The Writing Center also offers individual workshops each quarter. These specialized workshops offer review of grammar and punctuation, research formats, and essay exam preparation. In addition, the center maintains a Writer's Hotline for students and staff.

Tutoring Services

The Tutoring Office strives to provide a tutor for any course offered at the university in which a student may be experiencing difficulty. Students can sign up for tutoring not only to pass a course but also to improve their grades in a course. Initial application for placement with a tutor should be made in person at the Tutoring Office.

First-year students receive one hour of free tutoring per week, per course. Some students may be eligible for subsidized tutoring such as veterans and students supported by the Bureau of Vocational Rehabilitation. The office will also direct students to "help rooms" provided by various departments, where walk-in tutoring is available.

As an additional support service the Tutoring Office coordinates a Supplemental Instruction

Program in conjunction with specific General Education classes. For classes with a Supplemental Instruction component, students can attend free weekly study sessions.

Additional information about Tutoring Services and Supplemental Instruction can be found at the Tutoring Web site: <http://www.wright.edu/academics/tutor/>.

Mathematics Learning Center

The Mathematics Learning Center, created to enhance the learning of mathematics, provides many services, including

- Free walk-in assistance to students enrolled in introductory math courses
- Individualized evaluation and instruction to supplement the classroom experience
- Collaborations with Developmental Education and the Department of Mathematics and Statistics to coordinate appropriate assistance.

First-Year Experience

First-year students need assistance to navigate successfully through their initial year of college. The First Year Experience (FYE) is a wealth of opportunities provided by many dedicated faculty, staff, and students who are committed to helping new students through this learning process. For newly admitted students, the FYE begins simultaneously in Academic Affairs, including the University College, and Student Affairs, and Enrollment Management Services. Staff in these divisions work collaboratively with the university community to coordinate numerous first year student activities. Incoming students participate in both academic and student life activities that help them adjust to college, achieve academic success, grow and develop personally, and explore career development.

Early components of the FYE include placement testing, Summer On-Campus Advising and Registration (SOAR), Convocation, First Weekend, learning communities, and service learning and civic engagement.

Placement Testing

New students must complete appropriate testing before scheduling an academic advising appointment to prepare for course registration. The University College conducts placement testing in mathematics and writing for undergraduate students who are

new to the university. Some students (transfer, new, and continuing) may not be required to complete placement testing. Students should contact the University College for additional information regarding transfer credit, Advanced Placement and other exceptions.

Note: students under the age of 23 who attend Summer On-Campus Advising and Registration (SOAR) will undergo testing and registration as part of the SOAR process.

New Student Enrollment

All new students will follow the procedures outlined in their letters of admission to complete placement testing, advising, and registration.

Summer On-Campus Advising and Registration (SOAR)

First year students under the age of 23 with no previous college experience who are enrolling for fall quarter attend SOAR. While on campus, students receive academic advising in the University College, choose a learning community, and register for fall classes. Information about placement testing and SOAR is mailed to newly admitted students in the spring and is also available at http://www.wright.edu/univ_college or in 180 University Hall. Transfer students and students who do not attend SOAR may also refer to the Web site.

All new students beginning winter, spring, or summer quarters will follow the procedures outlined in their letters of admission.

Learning Communities

Wright State provides learning communities to help new students adjust quickly and become successful in college. Each learning community (LC) is a small group of students who take two or more classes together during their first quarter. Most LC's are based upon a first year seminar, such as LA 101, SM 198, or UVC 101. These courses provide an opportunity for students to make new friends, share learning experiences, learn college success strategies, and receive personal attention as part of a supportive college family. There are a variety of types of learning communities from which to choose. Academic advisors will help new students explore the options and select an appropriate learning community.

Service Learning and Civic Engagement

First year students participate in the Freshman Plunge service project during First Weekend and in service programs throughout the year.

Choosing Courses

Students are responsible for choosing courses that are appropriate for their academic needs and goals. Although there are many factors for students to consider, choosing classes need not be viewed as a difficult task. Normally a student who has declared an intended major will refer to an official listing of required and recommended courses for that major, including General Education courses. There are several sources for finding these required and recommended courses. This catalog, for instance, shows program requirements for each major and a summary of General Education courses. Also, most academic departments provide program check sheets. The DARS (Degree Audit Reporting System), available on Wings Express, tracks progress toward a degree.

In a previous section of this catalog, students can find details about the General Education Program. This information is very useful for first- and second-year students in selecting primary and alternate courses. Students should check their intended major's requirements for GE substitutions or selections.

On the next few pages, students will find additional information to help plan courses in the following areas:

- **Math and Statistics Sequences.** This flow chart shows some of the most commonly required sequences and prerequisites. It is a graphic guide to which mathematics and statistics courses must be taken and the order in which they are to be taken.
- **Still Deciding on a Major?** This section outlines the first-year program for undecided students.
- **Exploring Majors and Careers.** This guide suggests some on- and off-campus resources for students who need guidance in choosing a major or career.
- **Summary of Program Admission Requirements.** This quick reference shows admissions requirements for each college. Where applicable, a further breakdown is given of admissions requirements to individual departments.

Meeting with an Advisor

All first-year University College students must meet with their academic advisor each quarter for help in choosing courses consistent with goals, needs, and academic progress. Other students in University College may be required to meet with their advisor as a result of their academic standing. It is recommended

that students meet with their new advisor upon transferring to the college or school of their major. Although students are ultimately responsible for their own decisions, advisors are available to assist.

Course Registration Tools

Several tools are available to students for checking the availability of a specific course, prerequisites, co-requisites (e.g., a concurrent lab), and restrictions that limit enrollment in a particular section of a course to a specific group of students, such as “honors” or “early childhood education majors.”

- Look Up Classes (Wings Express)
- Designated computer terminals
- Quarterly Class Schedule Bulletin

First-Year Courses

First-year students usually choose most of their courses from General Education, math, developmental education, and specific courses required for their major as listed in the catalog, on DARS, or on a program check sheet. Students are expected to complete the General Education English, math, history, and natural science requirements before reaching junior status.

English Courses

The English course a student should enroll in first is determined through directed self-placement (or transfer credit). Advisors will assist students in assessing whether they need developmental education course work to prepare them for ENG 101. Many first-year students will not start ENG 101 until their second quarter, and many of those who do take ENG 101 their first quarter will not enroll in ENG 102 until their third quarter.

Math Courses

Once students begin math courses, it is recommended that they continue with math each quarter until their math requirements are completed. The starting point is determined by placement test score or transfer credit, and the final math courses are shown in the major's program requirements in the catalog listing, on DARS, and on the departmental check sheets. The Math and Statistics Sequences chart in this catalog is a graphic guide showing common math and statistics course pathways.

Writing Across the Curriculum

For information on the university's Writing Across the Curriculum program and Writing Intensive (WI) courses, see the “Requirements for a Bachelor's Degree” section of this catalog. Writing Intensive courses are identified as “WI” on the General Education Program listing.

Courses Required to Enter a Major

First- and second-year students should select appropriate courses that will allow them to satisfy the requirements to enter the college and department of their intended major. The Summary of Program Admission Requirements in this catalog is an abbreviated listing of these requirements. Using this guide, students may determine what specific courses, grades, or GPA they need for entry. The listing may also be useful to students advised in the University College who must select a new major because they have reached 90 hours (135 hours for transfer students) and still have not met the admission requirements for their intended major.

Entering a Major

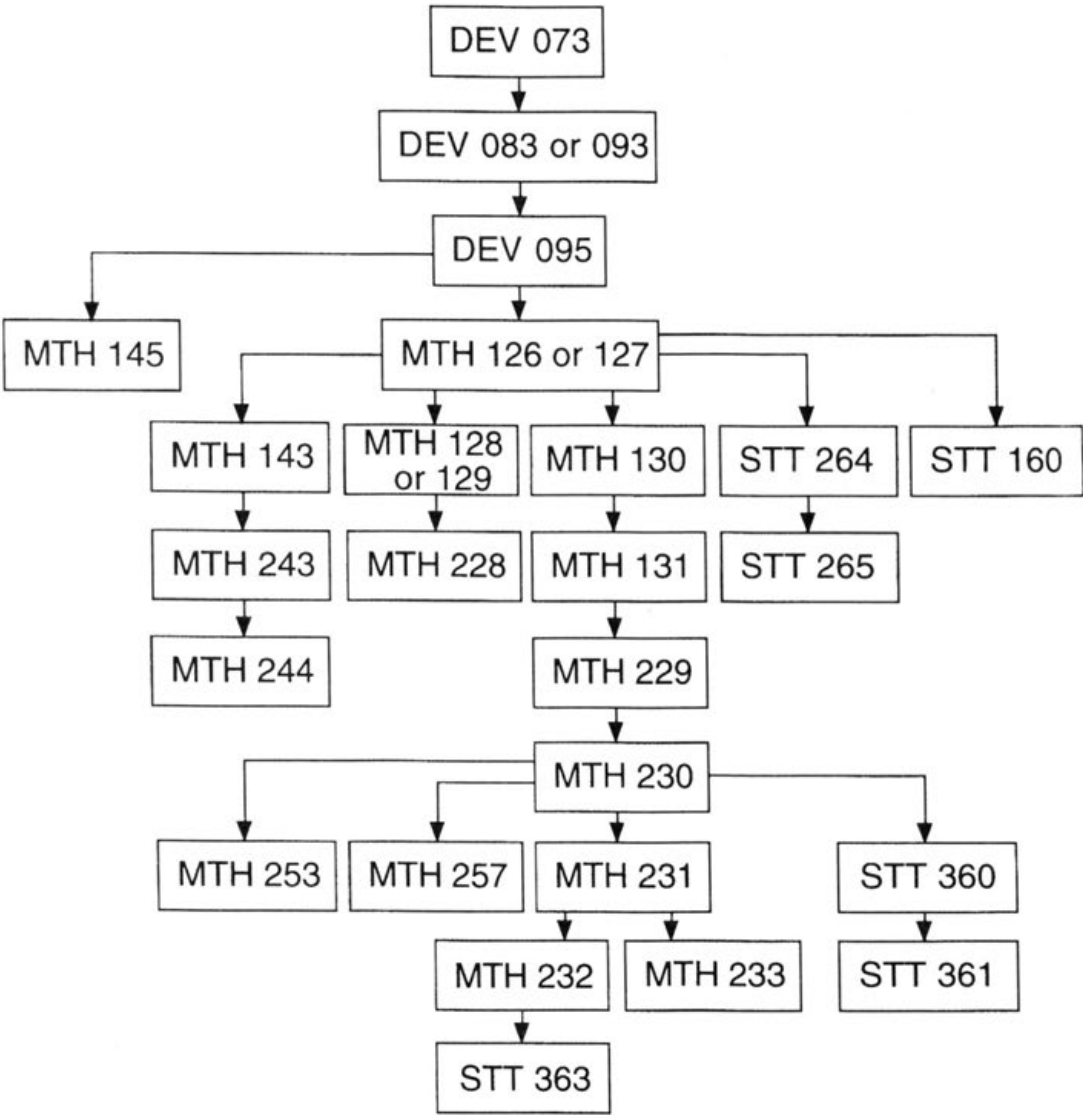
All University College students with a cumulative GPA of 2.0 or higher must enter a major within a degree-granting college by the time they have earned 90 credit hours (135 credit hours for students who entered WSU as transfer students), or they will be converted to nondegree status. *Nondegree students are ineligible for financial aid, veteran's education benefits, and intercollegiate athletics.*

Still Deciding on a Major?

Some majors require that students select specific General Education courses, while others allow choices. Substitutions for certain General Education courses may also be required for some majors. Students who are still exploring majors should follow the first-year schedule below and work closely with their academic advisor. Undecided students should also refer to the “Exploring Majors and Careers” section in this catalog for help in choosing courses and exploring majors.

Math and Statistics Sequences

This chart displays the prerequisites and sequences for commonly required math and statistics courses. Prerequisites for a particular course are shown above that course. Students' first math courses depend on their math placement levels and majors. Students should consult with their advisor or catalog/program checklist for more detailed information.



First-Year Schedule for Undecided Students

Fall
UVC 101 (Undecided Section) ENG__ or DEV__* MTH__ or DEV__* Gen Ed or Elective
Winter
UVC 102 LA 201 (Career Planning) ENG__ or Gen Ed MTH__ or Gen Ed Gen Ed or Elective
Spring
LA 401 (Career Decision) ENG__ or Gen Ed MTH__ or Gen Ed Gen Ed or Elective

* Initial courses in English and mathematics are determined by placement tests or transfer credit.

Exploring Majors and Careers

Where and How to Get Information

Career Services: E334 Student Union,
(937) 775-2556

- Career exploration counseling
- Discover: computerized career guidance system
- Career resources library
- Trade publications
- Future job trends information
- Resume writing assistance
- Co-operative education: internships
- Career planning and decision-making course (LA 201)

University College: 180 University Hall,
(937) 775-5750

- First year seminars (UVC 101, 102) designated for undecided students
- Academic advising and adjustment strategies
- Information on requirements for majors

Referral Sources: Informational interviewing ("networking")

- Advisors in the colleges
- Professors
- Professionals working in areas of interest
- Family members and friends

Courses

- General Education
- Electives to explore areas of interest
- Skill-building courses: computer literacy, interpersonal communication, technical/professional writing, etc.
- Class visits to learn course content (with instructor approval)
- College-sponsored career information courses
- Service Learning and Civic Engagement

Campus Bookstore

- Textbooks for courses of possible interest

Volunteer Opportunities

- Local, state, and national organizations
- Community service

Summary of Program Admission Requirements

The following list is a summary of the requirements for entering major programs, organized by college and then by department, where needed. For a detailed statement of the admission requirements for a particular program, please see the listing for that specific college and the major in the following sections of the catalog. Grade point averages (GPA) are cumulative, unless labeled otherwise.

College Entry Requirements

Raj Soin College of Business

Benchmark: Students in RSCOB majors are expected to be in their college by the end of their fifth quarter.

- 2.5 cumulative GPA from all schools • 45 credit hours earned
- Grade of "C" or higher in ENG 101 and 102
- Grade of "C" or higher in MTH 128/129 or in a higher level math course

College of Education and Human Services

Benchmark: Students in CEHS majors are expected to be in their college by the end of their fifth quarter.

- Early Childhood Education, Health and Physical Education, Integrated Business Education, and Marketing Education
- 2.5 GPA • 45 hours earned

70 University College

- Acceptable scores on the Praxis I test Following found at: www.ed.wright.edu
- Formal application, Writing Sample; 2 Recommendations

Middle Childhood Education

- 2.5 GPA • 45 hours earned • Statement of good moral character

Organizational Leadership

Benchmark: Students in the OL major are expected to be in their college by the end of their seventh quarter.

- Associate degree • 2.0 GPA

or

- 90 hours earned • 2.0 GPA • Completion of two courses from: ACC 204, EC 204 (or EC 205), TMK 201

Rehabilitation Services

- 2.35 GPA • 24 hours earned

College of Engineering and Computer Science

Benchmark: Students in CECS majors are expected to be in their college by the end of their sixth quarter.

- 2.25 GPA • 45 hours earned • Grade of "C" or higher in ENG 101, 102

Additional requirements for specific majors:

Biomedical Engineering, Electrical Engineering, or Industrial & Systems Engineering

- Grade of "C" or higher in EGR 101 (or MTH 229, 230) • Grade of "C" or higher in CEG 220
- Grade of "C" or higher in CHM 121/125 or PHY 240/200

Computer Science

- Grade of "C" or higher in MTH 229, 230 • 2.25 GPA in all CS and CEG courses
- Grade of "C" or higher in CS 240, 241, 242

Computer Engineering

- Grade of "C" or higher in MTH 229, 230 • Grade of "C" or higher in CS 240, 241
- Grade of "C" or higher in PHY 240/200 or CHM 121/125

Engineering Physics

- Grade of "C" or higher in EGR 101 (or MTH 229, 230) • Grade of "C" or higher in one of the following: CEG 220, EGR 153, or CS 240
- Grade of "C" or higher in CHM 121/125 or PHY 240/200

Mechanical Engineering or Materials & Science Engineering

- Grade of "C" or higher in EGR 101 (or MTH 229, 230) • Grade of "C" or higher in EGR 153 or CEG 220
- Grade of "C" or higher in CHM 121/125 or PHY 240/200

College of Liberal Arts

Benchmark: Students in COLA majors are expected to be in their college by the end of their third quarter.

- 2.0 GPA • 24 hours earned • Grade of "C" or higher in ENG 101 and 102
- Three other General Education courses from Areas 2, 3, or 4

Additional requirements for specific majors:

Communication and Social Science Education • 2.5 GPA

Criminal Justice and Urban Affairs • 2.3 GPA

Economics • Grade of "C" or higher in MTH 128/129 or in a higher level math course

Benchmark: Students in the Economics B.A. major are expected to be in their college by the end of their fourth quarter.

English Education/Integrated Language Arts

- 2.5 GPA • 48 hours earned

Benchmark: Students in the English Education major are expected to be in their college by the end of their sixth quarter.

Modern Language • 2.5 cumulative GPA or 3.0 GPA in foreign language courses

Motion Picture Production B.A. • 2.25 GPA

Social Work (minimum for consideration for admission*)

- 2.25 GPA • Grade of "C" or higher in in SW 270 and 271 • Formal application
- EC 200, PLS 200, SOC 200, PSY 105 & 341, BIO 107, SW 272, COM 104

Benchmark: Students in the Social Work major are expected to be in their college by the end of their sixth quarter.

*This program is competitive admission!

Special admission requirements for specific majors:

B.F.A. in Art, Acting, Dance, Design Technology, Musical Theatre

- 2.0 GPA • 24 hours earned • Audition required for Acting, Dance, and Musical Theatre

Motion Picture Production B.F.A.

- 2.25 GPA • 24 hours earned • Grade of "B" or "A" in MP 131 and 180

Music

- Audition • Three outside recommendations • Formal application

College of Nursing and Health (minimum for consideration for admission*)

Benchmark: Students in the Nursing major are expected to be in their college by the end of their sixth quarter.

- 2.5 GPA • 48 hours in prescribed courses • 2.5 GPA and grade of "C" or higher in all prerequisite courses - ENG 101 & 102, PSY 105 & 110, CHM 102, ANT 201, M&I 220, SOC 200, STT 160
- Formal application

*This program is competitive admission!

College of Science and Mathematics

Benchmark: Students in COSM majors are expected to be in their college by the end of their third quarter.

- 2.0 GPA • 24 hours earned • Grade of "C" or higher in 2 courses in chosen major

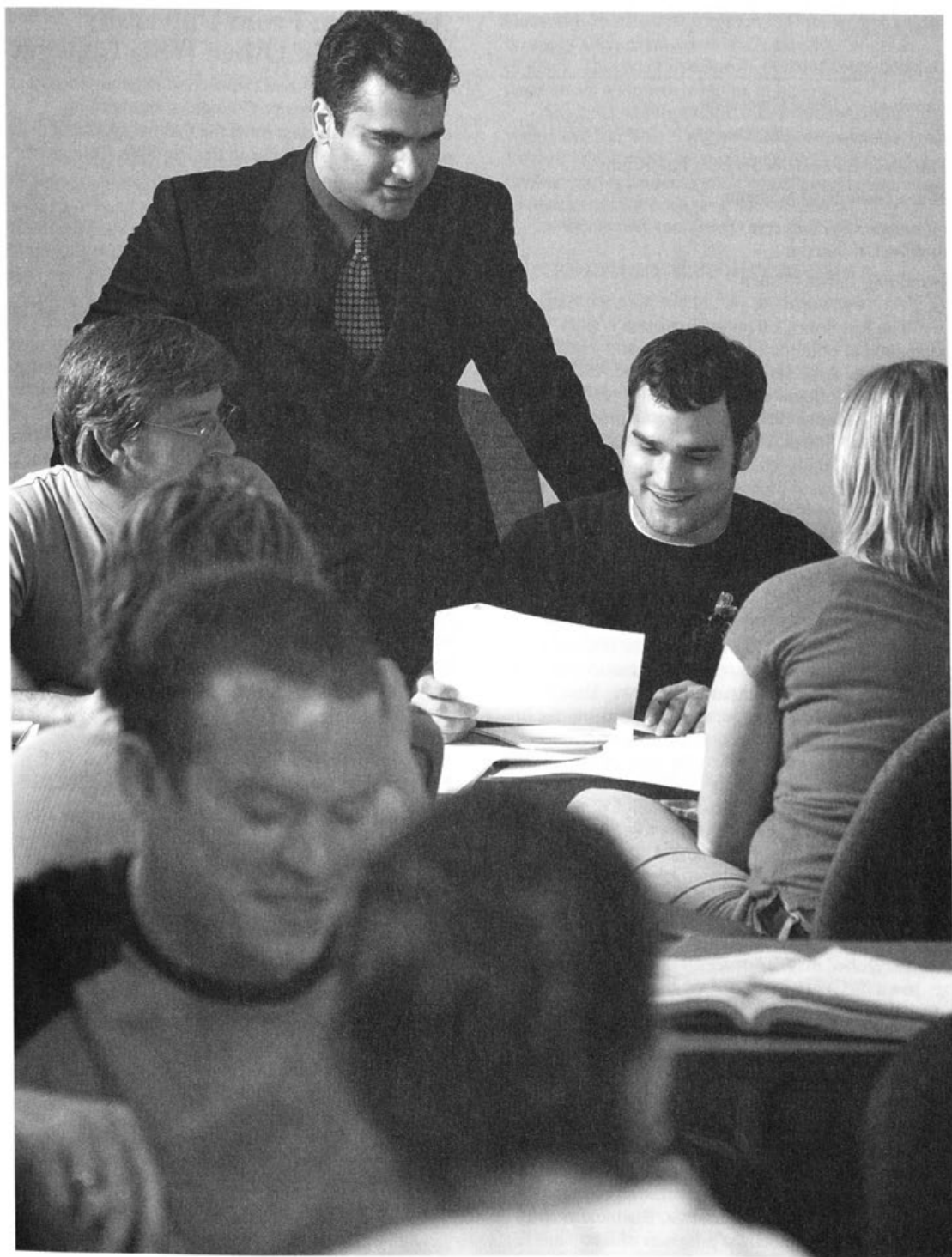
Additional requirements for specific majors:

Math • Grade of "C" or higher and 2.5 GPA in MTH 229 and 230

Benchmark: Students in the Math major are expected to be in their college by the end of their sixth quarter.

- Psychology • 2.25 cumulative GPA • 2.25 GPA in all Psychology courses (minimum of two classes)
- 30 hours earned

RAJ SOIN COLLEGE OF BUSINESS



Dean Berkwood M. Farmer

Associate Dean Richard E. Williams

Director, Undergraduate Programs JoAnn Bevelhimer

Associate Director, Undergraduate Programs
Charles Long

Department/Chair:

Accountancy James Greenspan

Economics Joseph Eisenhauer

Finance and Financial Services Fall Ainina

Management Riad A. Ajami

Information Systems and Operations Management
Andrew Lai, Interim

Marketing James Munch

The Raj Soin College of Business is fully accredited at both the undergraduate and graduate levels by the AACSB International-The Association to Advance Collegiate Schools of Business-which is the highest accrediting body for business colleges in the United States. This means that our faculty, curriculum, and all other educational resources are thoroughly and professionally evaluated by an independent board of educators and have been found to be of exceptional quality.

The college is committed to exceeding the standards advanced by the AACSB International. Our aim is to create an environment that fosters faculty development and strengthens the college's links with the external community. The college's academic programs provide the foundation for continuing self-development; educate students to be aware of the business person's responsibilities in the political, social, and economic order of society; and teach students to adjust to the rapidly changing global business environment.

In addition to offering the Bachelor of Science in Business, the college also offers five graduate programs: the Master of Business Administration, Master of Science in Social and Applied Economics, Master of Accountancy, Master of Science in Logistics and Supply Chain Management, and Master of Science in Information Systems.

effect at the time of their admission to the Raj Soin College of Business. Specific requirements for admission to the college follow.

Admission From University College and Other WSU Colleges

The college has a two-tier admission process. Students in University College or another unit of Wright State must meet the following Tier I requirements to transfer to the Raj Soin College of Business:

Tier I

1. 45 hours earned
2. Completion of ENG 101 and 102, English Composition; and either MTH 128 or 129, College Algebra (or higher-level math class), all with a letter grade of C or better
3. 2.5 minimum cumulative GPA

Students who meet the above requirements will be assigned to a prebusiness category and will be required to meet the following Tier II requirements before they can enroll in junior- or senior-level classes.

Tier II

Completion of the following classes:

ACC 204, 205 Accounting Principles I and II

EC 204, 205 Micro and Macro Economics

MS 204 Intro to Probability and Statistics

MS 205 Quantitative Business Modeling

CS 205 Computer Literacy

MTH 228 Calculus for the Management, Life and Social Sciences

Transfer and Returning Students

Transfer students seeking admission to the Raj Soin College of Business must satisfy the same criteria stated for Wright State students. Acceptable transfer credit will satisfy any of the above requirements.

Students who return to Wright State University after being absent for four or more quarters must reapply for admission and satisfy the same admission requirements listed above for Wright State students. These students will be required to complete the program requirements that are in effect at the time of their readmission to the college.

Enrollment in 300-level or 400-level business classes is restricted to business majors who have completed Tier II and attained junior standing. This is to ensure that students have the appropriate prerequisites and an adequate foundation for their professional course work in business.

Admissions and Advising

All students who are interested in a degree in business should apply to Wright State University's Office of Undergraduate Admissions. When applying, students should indicate their preferred major within the college, if known. Business majors are required to complete the program of study in

In the quarter that they register for their last Tier II requirements, students will be automatically transferred from a prebusiness to a business major number, permitting enrollment in 300-level business classes. If a student finds that this has not happened, and he or she cannot register for 300-level business classes, the student should contact the advising office immediately.

Advising

Program advisors are available in 110 Rike Hall to help students plan their program of study. Students who have been admitted to the Raj Soin College of Business may access their Degree Audit Report on Wings Express for a list of their General Education and major degree requirements. Signatures are not required for registration, but students are encouraged to see an advisor at least once a year to be sure they are on schedule for their projected graduation date. Advisors may also provide help with procedural or academic problems.

Students will also be assigned a faculty advisor based on their major. Faculty advisors can discuss career opportunities and career planning, recommend major and business electives, and discuss the curriculum of the student's major field.

If a student's cumulative GPA falls below the 2.0 required for graduation, the student will be placed on probation. If a student's cumulative GPA remains below 2.0 for three consecutive quarters, the student is subject to dismissal. Students on probation are required to meet with an advisor each quarter before registering, and are limited to 12 credit hours while on probation.

Degrees and Areas of Study

A broad curriculum is offered, leading to a Bachelor of Science in Business degree with majors in accountancy, business economics, finance, financial services, human resource management, international business, management, management information systems, marketing, and operations management.

The requirements for a Bachelor of Science in Business degree consist of four components. The first is the university's General Education requirements. The second component is the business core requirements that all students in the Raj Soin College of Business complete. These provide the student with an understanding of all functional areas of business. The third component consists of the requirements of the student's particular major in business. The fourth comprises business and

nonbusiness electives. Business electives must be chosen from courses that are offered by the Raj Soin College of Business but are not already required by the student's major. Nonbusiness electives are nonbusiness courses similar to the General Education requirements. Certain restrictions do apply and are noted on each major's program of study. The exact number of electives required depends on a student's major in business.

Students wishing to pursue a double major within the Raj Soin College of Business must formally declare their intention to do so. To earn a double major, students must complete all minimum requirements for both programs of study.

Graduation Requirements

In order to graduate, all students must

1. complete 187 credit hours of acceptable academic work.
2. attain a 2.0 or better GPA.
3. complete all course requirements as specified by the student's program of study.
4. complete a minimum of 45 credit hours at Wright State.
5. complete at least 15 of the last 45 credit hours at Wright State.
6. complete a minimum of 30 credit hours of upper division course work at Wright State.
7. complete at least 50 percent of required business courses at Wright State
8. maintain a 2.0 or better cumulative GPA in major courses (accountancy, human resource management, management, and marketing majors).

Seniors should meet with their academic advisor before their last quarter to be sure they have completed all requirements for graduation.

Business Minors

A minor program provides students with a structured concentration of study that will be noted on students' transcripts. The following minors are offered by the Raj Soin College of Business.

The *Business Minor* is open to nonbusiness majors who have been admitted to a major program of study. Students may apply for the Business Minor after completing all 200-level course requirements and achieving junior standing. This minor is recommended for nonbusiness majors who may wish to pursue a Master of Business Administration. Forty-eight hours are required: CS 205; EC 204, 205; ACC 204, 205; MS 204, 205; MGT 304; MKT 250; FIN 310; LAW 300; and MIS 300.

Economics is open to business and nonbusiness majors who have been admitted to a major program of study, earned junior standing, and completed EC 204 and 205 with grades of C or better. Twenty-four hours are required: EC 204, 205 and four economics electives.

International Business is open to nonbusiness majors only. Students will be admitted when they are admitted to a major program of study and have earned junior standing. Twenty-eight hours are required: PLS 222, IB 201, MGT 304, MGT 485, MKT 250, MKT 421, and one business foreign language course.

International Trade is open to business majors only. Students will be admitted after completing Tier II requirements and earning junior standing. Twenty-four hours are required: IB 486; four of the following: ACC 454, MGT 485, MS 334, MKT 421, FIN 490; and one of the following: EC 419, 435, or 444.

Management is open to business and nonbusiness majors. Students will be admitted when they have attained junior standing and have been admitted to a major program of study. Twenty-four hours are required: MGT 304, 321, and 411; LAW 300; and two management electives.

Management Information Systems is open only to business majors. Students will be admitted after attaining junior standing and completing Tier II requirements. Twenty hours are required: MIS 325, 345, 415, 425, and one MIS elective.

Operations Management is open to business and nonbusiness majors. Students will be admitted when they have attained junior standing and been admitted to a major program of study. Twenty-four hours are required: MS 205, 307, 320, 330, and two OM electives.

Marketing is open to business and nonbusiness majors. Students will be admitted when they have attained junior standing and have been admitted to a major program of study. Twenty-four hours are required: MKT 250, 303, 446, and three marketing electives.

Nonbusiness majors may complete only one minor and may not take additional business courses beyond those required for their minor. Liberal Arts economics majors and organizational leadership majors may not complete any business minor.*

Additional information and application forms for business minors are available in 110 Rike Hall.

*Students must complete 50 percent of minor courses at WSU and maintain a 2.0 GPA in minor courses.

Honors Program

The honors program provides qualified students an opportunity to enrich their education with an intensive program of independent study. Minimum requirements for admission to the honors program are a cumulative GPA of 3.4 for all course work and a cumulative GPA of 3.5 in business courses (Accountancy majors must also have a 3.6 GPA in Accounting courses.) Students should apply for this program at least 15 months prior to the expected date of graduation. Applications and additional information are available in 110 Rike Hall.

Students who successfully complete this program will graduate "With Honors." To graduate with the distinction of "University Honors Scholar" students must complete the college honors program and the university honors requirements.

Cooperative Education and Internships

The Cooperative Education Program at Wright State University gives students a chance to integrate classroom theory with practical, career-related work experience. Business students may alternate full-time quarters of on-campus study with quarters of full-time education-related jobs, or may choose to combine a part-time co-op work schedule with a reduced, but full-time, course load.

Through the co-op program, students can gain valuable learning experiences, test career interests, learn more about business career fields, and develop job-related skills, as well as earn income for college expenses. Details on program requirements and procedures are available in the Office of Career Services, E334 Student Union.

Internships are a one-time experience that permit students to apply what has been learned in the classroom to an actual work experience. Students may earn academic credit for an internship if it is supervised by a faculty member in their major department. Students should contact their departments for information on internships.

Student Organizations

Each of the majors offered by the Raj Soin College of Business sponsors a student club. Participation in these clubs gives students an opportunity to gain valuable career information and develop closer ties with the faculty and other students in their major. Club activities include

business meetings, speakers from business and industry, tours of local businesses, career fairs, and social events.

The current clubs are the Accounting Club, Association of Information Technology Professionals, Economics Club, Finance Club, International Business Club, Operations Management Club, Management Club, and Marketing Club. Several of these clubs are affiliated with professional societies. Membership in these clubs is open to all students. Students may contact the appropriate department office for information on how to join.

The Association of Black Business Students was organized to strengthen the relations between black students and the entire campus and business community. The association promotes academic excellence, professional and personal development, and cultural awareness. Membership is open to any Wright State University student.

The Dean's Student Advisory Board serves the Raj Soin College of Business students as a link between the Dean, the students, and the business community.

Honor Societies

A chapter of Beta Gamma Sigma, the national scholastic honor society in business and administration, was established at Wright State in 1976. Additional honor societies are Alpha Delta Chapter of Omicron Delta Epsilon, an international honor society for economics scholars and students; Alpha Kappa Epsilon, the national honorary society for International Business; Alpha Iota Delta, the national honor society for operations management majors; Beta Alpha Psi, the national honorary accountancy fraternity; and Sigma Iota Epsilon, the national honorary management fraternity.

Departments/ Major Programs

There are 10 major programs available to students in the Raj Soin College of Business (RSCOB). For those students who wish to major in business, but who do not know which major they are interested in, there is an undecided category. To ensure timely graduation, students are encouraged to select a major before the junior year. However, students may remain undecided until the middle

of their junior year; by that time they will have had course work in all the major areas in business and will be in a better position to decide on a major. Advisors are available to help students with this decision. Students who intend to major in accountancy, international business, management information systems, or operations management should declare their major before their junior year, because the major requirements follow a specific sequence. Generally, it is possible to change majors within business during the junior year without delaying graduation.

Required Courses and Majors in Business

An official list of major requirements and scheduling information will be provided at the time the student is admitted to the college. Since this list represents a contract between the college and students, it is important that students meet with an advisor to review the requirements. Major course requirements, planning information, career related information, and additional information are available on the Raj Soin College of Business Web site at <http://www.wright.edu/business/>.

General Education Requirements 61

Required Substitutions:

Area I: MTH 228

Area II: EC 204, 205

Area VI: EC 290 or FIN 205

The RSCOB will accept other college component courses for students who change majors.

Business Core Requirements	66
MTH 128 or 129	3
CS 205	4
ACC 204, 205	8
MS 204, 205	8
COM 203	3
MKT 250	4
ENG 330	4
EC 310	4
FIN 310	4
LAW 300	4
MGT 304	4
MIS 300	4
MS 307	4
MGT 493	4
MGT 499	4
Major Requirements	60
Total	187

Accountancy

Professors Greenspan (chair), Lightle, Sprohge, Talbott
Associate Professors Bukovinsky, Hartwell, Lin
Assistant Professors Brown, Cook, Kremer (WSU-Lake Campus)
Lecturers Houston, Terzian

The objective of the accountancy major is to educate students for professional careers in public, industrial, governmental, and not-for-profit accounting. To this end, the program provides a broad educational experience for students and gives them a background for completing professional accounting examinations such as the CIA (Certified Internal Auditor) and CMA (Certified Management Accountant). Accountancy majors may consider a minor in either management information systems or computing and information technology. Contact an advisor in computer science for details on the CIT minor. Students interested in financial management are encouraged to complete a series of accountancy and finance courses designed to prepare them for the CFM (Certified Financial Manager) exam. This major also provides an excellent undergraduate background for a degree in law.

Students who plan to take the CPA (Certified Public Accountant) exam should pursue the Master of Accountancy program upon completion of the bachelor program in order to meet the education requirements of the Accountancy Board of Ohio.

Transfer students who major in accountancy should note that at least 20 credit hours of their accountancy courses must be taken at Wright State.

The department has a chapter of Beta Alpha Psi, the national accountancy honorary fraternity.

Statement of Academic Integrity

Accounting professionals are expected at all times to maintain a high level of integrity. Similarly, accounting students are expected to maintain a high level of integrity and ethics in their study of the discipline. Accordingly, any student found to be guilty of academic dishonesty, plagiarism, etc., may be subject to expulsion from any undergraduate or graduate program offered by the Department of Accountancy.

CPA Exam and Combined B. S./M. Acc. Program

Laws in the state of Ohio and most other states require that to take the CPA exam, a candidate must have the equivalent of five years of college work (225 quarter credit hours). After completing

120 quarter credit hours and ACC 308, 326, and 343, students interested in taking the CPA exam are recommended to apply for early admission to the Master of Accountancy (M.Acc.) program (45 quarter credits) at Wright State. Students who are admitted early can complete both the M.Acc. and bachelor's degree with four fewer credit hours than those who wait to complete the bachelor's degree before applying. Students interested in pursuing this track are urged to contact the Department of Accountancy early in their junior year.

Degree Requirements—Accountancy

Bachelor of Science in Business Degree

The program in accountancy requires a minimum of 187 credit hours.

General Education Requirements	61
Required Substitutions	
Area I: MTH 228	
Area III: EC 204, 205	
Area VI: EC 290 or FIN 205	
Business Core Requirements	66
Accountancy Major Requirements	60
ACC 307	4
ACC 308	4
ACC 309	4
ACC 323	4
ACC 326	4
ACC 343	4
ACC 423	4
ACC 424	4
ACC 444	4
FIN 311	4
Business Electives	12
Nonbusiness Electives	8
Total	187

Scheduling, prerequisite, and elective information is available in 110 Rike Hall or on the Raj Soin College of Business Web site at <http://www.wright.edu/business/>.

Economics

Professors Blair, Eisenhauer (chair), Fichtenbaum, Olson, Osborne, Premus, Sav, Traynor

Associate Professors Dung, Hopkins

Assistant Professors Naidu, Todorova

Lecturer Endres

"Economics" comes from the Greek *oikos*, meaning "house," and *nemein*, meaning "to manage." Economics is the social science that studies how people manage their resources. In modern economics this includes an individual deciding how to use her time; a family managing its budget; a small business controlling its costs; a cultural organization planning its priorities; a city balancing a tight budget with demands for services; a large company working to control the cost of health insurance for its employees; a national government fighting unemployment, poverty, or inflation; and the world community reducing air emissions of mercury and climate-altering greenhouse gases.

The economics program equips students to pursue careers in business and government and prepares them for graduate study in economics, business, or law. Our graduates have achieved success as executives in a wide variety of industries and are employed as professional economists in such diverse areas as urban economics, workforce and training analysis, business forecasting, school finance consulting, evaluation of health and delivery systems, budget analysis, market consulting, government planning, banking, and statistical analysis. Some of our graduates continue their education in our master's program in social and applied economics.

The program outlined here is designed to give our students both the background that will broaden their future options and the specific skills necessary to apply economic ideas. This includes the ability to express economic ideas clearly and concisely.

Departmental faculty advisors are available to all students who need advice about formulating and reaching career goals, as well as making decisions about elective courses.

Degree Requirements—Business Economics

Bachelor of Science in Business Degree

The program in economics requires a minimum of 187 credit hours. A minimum of 40 credit hours in economics is required.

General Education Requirements	61
Required Substitutions:	
Area I: MTH 228	
Area III: EC 204, 205	
Area VI: EC 290 or FIN205	
Business Core Requirements	66
Economics Major Requirements	60
EC 301	4
EC 315	4
EC 317	4
EC 319	4
EC 409	4
Economics Electives	20
Business Electives	8
Nonbusiness Electives	12
Total	187

Scheduling, prerequisite, and elective information is available in 110 Rike Hall and on the Raj Soin College of Business Web site at <http://www.wright.edu/business/>.

Finance and Financial Services

Professors Ainina (chair), Gressis, Larsen

Associate Professors Akhbari, Williams (associate dean)

Assistant Professor Wang

Instructors Kawosa, Wood

Two majors are available: finance and financial services. The finance major includes a core of courses that covers all aspects of the theory and practice of financial management. Financial management involves managing the financial affairs of businesses and other organizations. The curriculum includes courses in accounting, investments, financial planning and analysis, international finance, and managerial finance. A special sequence of courses has been designated for students interested in obtaining the CFM (Certified in Financial Management) designation. Among the many job opportunities open to the graduate with a finance major are capital budgeting analyst, cash manager, credit analyst, financial analyst, loan officer, and financial manager.

The financial services major is designed to meet the growing need for people who are knowledgeable

in all areas of personal financial management, including investments, insurance, tax planning, retirement planning, real estate, estate planning, and personal financial planning. Among the many career opportunities available to the graduate with a financial services major are financial planner, stockbroker, insurance agent, real estate broker, loan officer, and trust officer. Students who complete the financial services major and the appropriate electives at Wright State are eligible to sit for the Certified Financial Planner exam.

Students with an interest in both finance and accounting may wish to consider a dual major in finance and accounting. Interested students should contact an academic advisor.

Degree Requirements—Finance

Bachelor of Science in Business Degree

The major in finance requires a minimum of 187 credit hours.

General Education Requirements	61
Required Substitutions:	
Area I: MTH 228	
Area III: EC 204, 205	
Area VI: EC 290 or FIN 205	
Business Core Requirements	66
Finance Major Requirements	60
ACC 307	4
ACC 308	4
FIN 311	4
FIN 401	4
FIN 418	4
FIN 490	4
Finance Electives (see advisor)	16
Business Electives	12
Nonbusiness Electives	8
Total	187

Scheduling, prerequisite, and elective information is available in 110 Rike Hall or on the Raj Soin College of Business Web site at <http://www.wright.edu/business/>.

Degree Requirements—Financial Services

Bachelor of Science in Business Degree

The major in financial services requires a minimum of 187 credit hours.

General Education Requirements	61
Required Substitutions:	
Area I: MTH 228	
Area III: EC 204, 205	
Area VI: EC 290 or FIN 205	
Business Core Requirements	66
Financial Services Major Requirements	60
FIN 311	4
FIN 315	4
FIN 351	4
FIN 401	4
FIN 461	4
FIN 462	4
ACC 343	4
Financial Services Electives (see advisor)	12
Business Electives	12
Nonbusiness Electives	8
Total	187

Scheduling, prerequisite, and elective information is available in 110 Rike Hall or on the Raj Soin College of Business Web site at <http://www.wright.edu/business/>.

Information Systems and Operations Management

Professors Coleman, Lai (interim chair), Sanders, Sethi, Yen

Associate Professors Polak, Weinstein

Assistant Professors Denison, Duffy, Jeyaraj, Schiller, Sengupta

Lecturers Chesen, Lumpkin

Two majors are available: management information systems and operations management. The management information systems major trains students for careers in systems analysis, business systems design, and information technology management. The program strongly emphasizes business and organizational studies as well as information systems technology. Students in this program will study business systems analysis, business systems design, and computer

programming. Other technical and business areas in the program focus on developing, implementing, and maintaining information systems in a variety of organizational settings. The program includes course work in information system design and development methodologies, database management systems, electronic business, and data communications. The program also covers business fundamentals in accounting, finance, marketing, management, and operations management.

Degree Requirements— Management Information Systems

Bachelor of Science in Business Degree

The program in management information systems requires a minimum of 187 credit hours.

General Education Requirements	61
Required Substitutions:	
Area I: MTH 228	
Area III: EC 204, 205	
Area VI: EC 290 or FIN 205	
Business Core Requirements	66
Management Information Systems Major Requirements	60
MIS 215	4
MIS 305	4
MIS 325	4
MIS 345	4
MIS 415	4
MIS 425	4
MIS 450	4
MIS 495	4
CS 208	4
CS 209	4
Management Information Systems elective	4
Business Electives	8
Nonbusiness Electives	8
Total	187

Scheduling, prerequisite, and elective information is available in 110 Rike Hall or on the Raj Soin College of Business Web site at <http://www.wright.edu/business/>.

Operations Management

Every organization, whether public or private, produces goods and/or delivers services to customers and clients. Effective management of these production and service operations is critical to the

success of an organization. Operations professionals manage and coordinate activities to balance the needs of the consumer with the resources of the firm. For many firms, these efforts increasingly extend beyond a single physical location and require coordination within a global pipeline of suppliers and contractors. This requires an effective and efficient flow of both materials and information among all parts of the supply chain, with the overall goal of satisfying the ultimate consumer.

Once considered a strictly behind-the-scenes activity, operations management is now being recognized as an important strategic tool for creating customer value and loyalty. Companies such as Wal-Mart, Coca-Cola, and Nike attribute much of their success to the efficient management of their global supply chains.

Operations management majors study concepts and strategies that enable organizations to be competitive in the world economy. They also study management tools and analytical techniques, such as forecasting, purchasing and logistics, inventory management, production scheduling, and quality manufacturing practices needed to achieve the goal of customer service.

Broadly speaking, the curriculum has three primary areas: (1) the study of basic problem solving and data analysis tools to assist the operations manager in making good decisions; (2) the study of the major concepts and strategies for managing people, materials, and production resources needed to deliver value to the customer; (3) the integration of the operations function into overall corporate strategy.

Degree Requirements - Operations Management

Bachelor of Science in Business Degree

The program in operations management requires a minimum of 187 credit hours.

General Education Requirements	61
Required Substitutions:	
Area I: MTH 228	
Area III: EC 204, 205	
Area VI: EC 290 or FIN 205	
Business Core Requirements	66
Operations Management Major Requirements	60
MS 320	4
MS 330	4
MS 333	4
MS 334	4
MS 460	4
MS 495	4

ENG 333	4
ACC 323	4
Operations Management Elective	4
Business Electives	12

Nonbusiness Electives	12
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Total	187
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Scheduling, prerequisite, and elective information is available in 110 Rike Hall or on the Raj Soin College of Business Web site at <http://www.wright.edu/business/>.

International Business

Director Monica Snow

This major prepares students for careers in international business. The program has an applied learning orientation that includes foreign language courses and an internship in an area of international business. The degree is interdisciplinary, combining courses in culture, foreign language, and international business. A combination of international courses is taken in each functional area of business, including marketing, accountancy, finance, management, and economics.

The international business major should be selected by students who want a broad background and applied experiences for administrative careers that require competency in language, culture, and international business operations. In addition, the major provides a firm grounding in the management of organizational and institutional resources and in international issues.

Through the required internship, the major provides the opportunity to apply skills learned in the classroom to real-life situations. The major also encourages study abroad opportunities to hone foreign language skills and international trade competencies.

Applied modern language courses are offered in Spanish, French, and German through the Department of Modern Languages.

Language Placement

Students with fewer than two years of a foreign language in high school, or a grade of C or lower, are advised to enroll in FR, GER, or SPN 101, 102, 103 for credit.

Students who have studied a foreign language

for two or more years and received a grade of B or better may not take 100-level foreign language courses for credit; they must enroll in FR, GER, or SPN 201.

Degree Requirements—International Business

Bachelor of Science in Business Degree

The major in international business requires a minimum of 187 credit hours.

General Education Requirements	48
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Required Substitutions:

- Area I: MTH 228 (counted in Business Core)
- Area III: EC 204, 205 (counted in Business Core)
- Area VI: EC 290 or FIN 205

Business Core Requirements	79
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International Business Major Requirements	60
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EC 435	4
MS 334	4
FIN 490	4
MKT 421	4
MGT 485	4
ACC 454	4
IB 486	4
IB 481	4
Modern Language 201, 202, 203	12
FR 325, GER 325, or SPN 325	4

Cultural Electives	12
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Total	187
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Scheduling, prerequisite, and elective information is available in 110 Rike Hall or on the Raj Soin College of Business Web site at <http://www.wright.edu/rscob/>.

Management

Professors Ajami (Chair), Baker, Davy, Petrick, Slonaker, Wendt

Associate Professors Dewett, Sincoff, Williams

Assistant Professors Bright, Gruys

Lecturer Crawford

Instructor Bernstein

Management is a universal process that applies to all career fields and to private, public, and nonprofit organizations. The curriculum offers two majors: the management major and the human resource management major.

The management major should be selected by students who want a broad background that prepares them for administrative careers in a wide range of settings. Course work is appropriate for individuals considering entry-level positions or management trainee programs. In addition, this major provides a firm grounding in the management of organizational and institutional resources, and in international issues.

The human resource management major is intended for students who have chosen a career in human resource management. The field is recognized for its increasingly significant contribution to the success of all types of organizations. Graduates will typically qualify for entry-level positions in recruiting, testing, interviewing, compensation, benefits, training, affirmative action, and labor relations. Also, graduates will be prepared to take the Professional in Human Resources Certification Test.

Degree Requirements— Management

Bachelor of Science in Business Degree

The program in management requires a minimum of 187 credit hours.

General Education Requirements	61
Required Substitutions:	
Area I: MTH 228	
Area II: EC 204, 205	
Area VI: EC 290 or FIN 205	
Business Core Requirements	66
Management Major Requirements	60
LAW 420	4
MGT 321	4
MGT 410	4
MGT 411	4
MGT 473	4
MGT 485	4
Management Electives (see advisor)	12
Business Electives	12
Nonbusiness Electives	12
Total	187

Scheduling, prerequisite, and elective information is available in 110 Rike Hall or on the Raj Soin College of Business Web site at <http://www.wright.edu/business/>.

Degree Requirements—Human Resource Management

Bachelor of Science in Business Degree

General Education Requirements	61
Required Substitutions:	
Area I: MTH 228	
Area II: EC 204, 205	
Area VI: EC 290 or FIN 205	
Business Core Requirements	66
Human Resource Management Major Requirements	60
LAW 440	4
LAW 420	4
MGT 321	4
MGT 410	4
MGT 412	4
MGT 425	4
MGT 495	4
Human Resource Management Electives (see advisor)	8
Business Electives	12
Nonbusiness Electives	12
Total	187

Scheduling, prerequisite, and elective information is available in 110 Rike Hall or on the Raj Soin College of Business Web site at <http://www.wright.edu/business/>.

Marketing

Professors Khara, Munch (chair), Ramsey, Wise (emeritus)

Associate Professors Gulas, Gupta, Ping

Assistant Professor Wamwara-Mbugua

Two majors are available: Marketing and International Business

Marketing

The marketing program gives students a thorough grounding in the concepts and techniques needed to make marketing decisions in any organization. In addition to a survey course in principles of marketing, marketing majors study consumer behavior, international marketing,

marketing analysis, and marketing strategy. They must also participate in major marketing projects at the senior level.

Marketing careers are far reaching, touching on all components of the marketing mix-product, promotion, pricing, and channels of distribution. In turn, each of these areas offers dozens of specific job opportunities. For example, the promotional area includes careers in advertising, public relations, personal selling, and merchandising. Moreover, a single area, such as advertising, can offer more than two dozen special career orientations. There are rewarding career opportunities in virtually all fields of endeavor. Other major employment tracks include retailing, marketing research, product management, personal selling, and strategic planning.

Degree Requirements— Marketing

Bachelor of Science in Business Degree

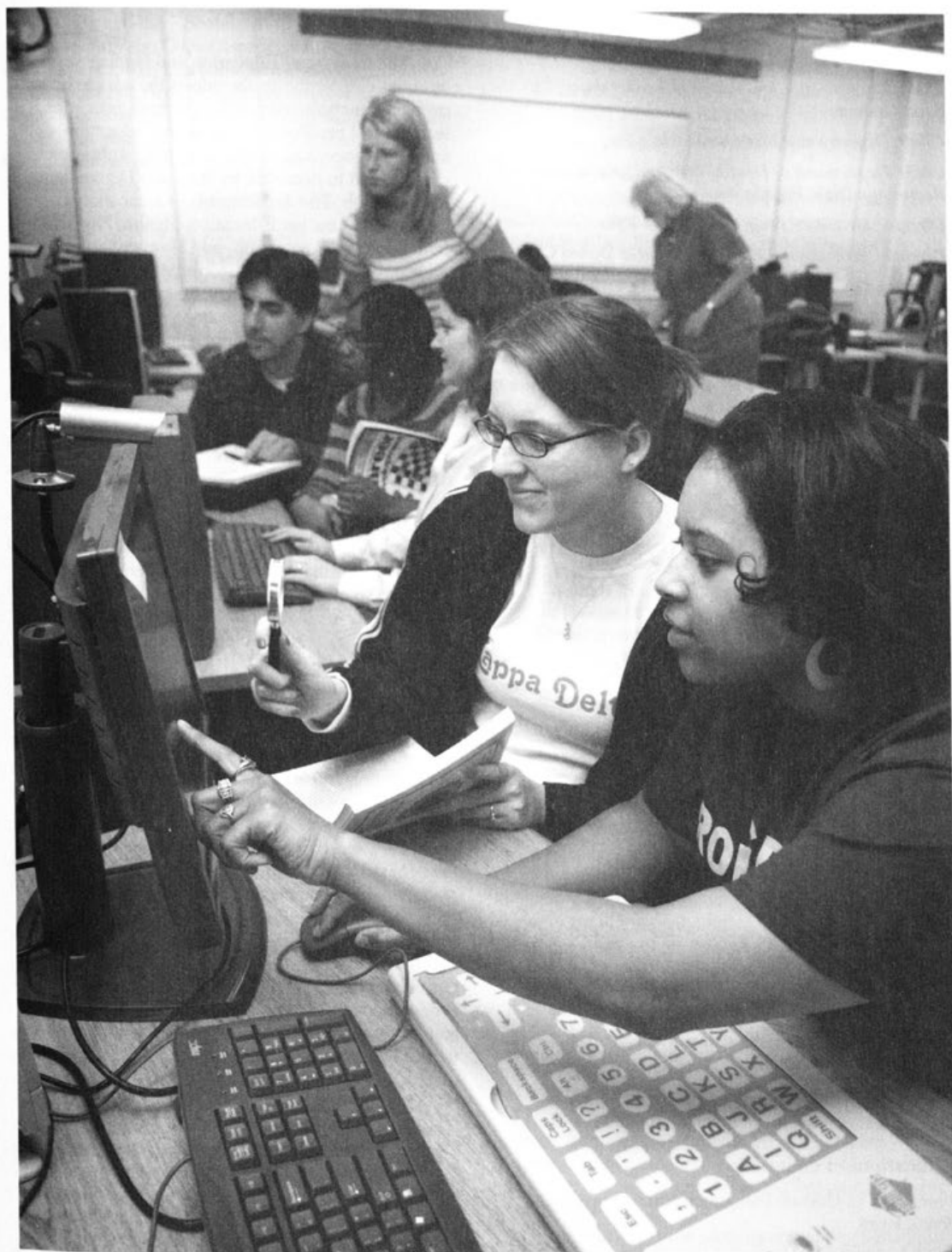
The marketing program requires a minimum of 187 credit hours.

General Education Requirements	61
Required Substitutions:	
Area I: MTH 228	
Area III: EC 204, 205	
Area VI: EC 290 or FIN 205	
Business Core Requirements	66
Marketing Major Requirements	60
MKT 303	4
MKT 421	4
MKT 451	4
MKT 452	4
MKT 492	4
Marketing Electives	16
Business Electives	12
Nonbusiness Electives	12
Total	187

Scheduling, prerequisite, and elective information is available in 110 Rike Hall or on the Raj Soin College of Business Web site at <http://www.wright.edu/business>.



EDUCATION AND HUMAN SERVICES



Dean Gregory Bernhardt

Associate Dean Bonnie K. Mathies

Assistant Dean for Administration Donna Hanby

Business Manager Kevin Watson

*Chair, Department of Teacher Education
Colleen Finegan*

*Chair, Department of Educational Leadership
Scott Graham*

Chair, Department of Human Services Stephen Fortson

*Chair, Department of Health, Physical Education, and
Recreation Drew Pringle*

Director, Graduate Programs Charles Ryan

Director, Professional Field Experiences Donna Cole

Director, Office of Student Services Chris Murphy

*Assistant Director and Teacher/Licensure Advisor
Eric Poch*

Teacher Licensure and Academic Advisors

Autumn Coleman, Linda Hockaday, Gayle Wiley

Faculty

Teacher Education

*Professors Bernhardt (dean), Cole, Finegan (chair),
Hansell (Emeritus), Helms, Uphoff (emeritus)*

*Associate Professors Basista, Bargerhuff, Beumer-
Johnson, C. Harris, D. Johnson, Jung, Mathews,
Mosier, O'Connor, Ramey, Renick, Slattery, Tomlin*

*Assistant Professors Collier, Dunne, Hess, Reed,
Schatmeyer*

*Lecturers Bona, Boyd, Loy, C. Jackson, Haught,
Keener, Kenyon, Koenig, Kramer, Lamping,
Merchant, Patel, G. Scott, Teed*

Health, Physical Education and Recreation

Professor Gayle

Associate Professors Langlois, Pringle (chair)

Assistant Professor Lorson, Wonders

Lecturers Bower, Ortiz, Hoffman, Jagger-Mescher

Human Services

Professors Bernhardt (dean), Frey, La Forge, Ryan

*Associate Professors Fortson (chair), Henderson, Jones,
Wagner Williams, Wantz*

Assistant Professors Keferl, Self, Tromski-Klingshirm

Lecturers Dunaway, Knigga

Educational Leadership

*Professors G. Graham (emeritus), Mathies (associate
dean), Ryan*

*Associate Professors Adams, Carlsen, Diamantes, S.
Graham (chair), Hambright, Lindsey, Rafferty, Roby*

*Assistant Professors Bennett, Davis, Garner, Risacher,
Berg, Franco*

Lecturer Veres

The College of Education and Human Services assumes responsibility for one of the university's primary functions: preparing teachers, educational leaders, and professionals in health, education, and human services. Many programs within the college lead to licensure by the Ohio Department of Education. The departments of Educational Leadership, Teacher Education, Health, Physical Education and Recreation, and Human Services prepare licensed and nonlicensed leaders for public and private schools, industry, hospitals, sports medicine clinics, and community agencies. These leaders include public school teachers, principals, curriculum supervisors, central office administrative specialists, athletic trainers, school guidance counselors, personnel counselors, rehabilitation service providers, sign language interpreters, community and mental health counselors, and student affairs (higher education) practitioners.

The Bachelor of Science in Education degree and the Bachelor of Science degree with majors in sign language interpreting, rehabilitation services and organizational leadership are offered. The college also offers programs leading to the Master of Arts, Master of Education, Master of Rehabilitation Counseling, Master of Science, and Educational Specialist degrees.

Throughout its history, the college has maintained a close working relationship with the public schools and community agencies in the region. Frequent involvement of the College of Education and Human Services faculty in the schools and agencies of the area, and the advice and planning assistance of public school and agency personnel, serve to improve the college's programs, the programs of community schools, and the services of community agencies.

Note:

The current edition of the Wright State University Report on the Quality of Teacher Preparation can be found in the Appendix. Current and future reports are also available at <http://www.wright.edu/policies/passrates/>.

Accreditations

The College of Education and Human Services meets the standards of, and has been approved by, the Ohio State Board of Education and is a member of the American Association of Colleges for Teacher Education. The college's teacher education programs are accredited by the National Council for

Accreditation of Teacher Education (NCATE). The college's community counseling, community mental health counseling, and school counseling programs are accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP), and the Rehabilitation Counseling programs carry the Council on Rehabilitation Education (CORE) accreditation. The undergraduate rehabilitation services program is listed in the Registry of Undergraduate Rehabilitation Programs. The athletic training program is accredited by the Commission on Accreditation of Athletic Training Education (CAATE).

Admissions, Retention, and Advising

The College of Education and Human Services follows the principle, supported by the Ohio Laws and Regulations of the State Board of Education and the accrediting agencies cited above, that the college has the right and obligation to consider personal factors, as well as academic achievement, as a basis for admitting and retaining a student in its professional programs. While academic performance is a major determinant of effective performance in a profession, it is not the only one. Because there are also skills, understanding, and personal characteristics unique to a particular profession (such as teaching, sign language interpretation, and rehabilitation services), students seeking admission to the college's programs must meet requirements in addition to those generally prescribed for enrollment in the university.

Prospective majors should see an advisor in the college for current admissions requirements. Information is available in the college's Office of Student Services.

Teacher Education Admissions Policies

To be considered for admission to the College of Education and Human Services' teacher education programs in integrated business education, marketing education, early childhood education, and health and physical education, students must meet the requirements listed below. (For admissions policies for music education, see the College of Liberal Arts section of the catalog.)

1. Complete at least 45 academic credit hours
2. Attain at least a 2.5 cumulative GPA
3. Achieve a required score on each section of the

Praxis I Test

4. Submit a completed CEHS Teacher Education Program Application packet which includes:
 - a. evidence of GPA and Praxis I scores;
 - b. a self-assessment statement, which includes the applicant's career goals and a signed character statement;
 - c. two recommendation forms, at least one from a faculty member;
 - d. a writing sample of 250-500 words.
5. Complete an interview

Meeting these requirements does not guarantee admission to the teacher education program. A student is officially admitted to the College of Education and Human Services program at the professional discretion of the faculty and staff.

All applicants for initial licensure must meet these admission requirements. All requirements are subject to NCATE and Ohio Department of Education (ODE) regulations. Application forms may be obtained from the College of Education and Human Services Student Services Web site at <http://www.cehs.wright.edu/ss/>.

Middle Childhood Education (without licensure) Admissions Policy

To be considered for admission to the College of Education and Human Services middle childhood education program, students must meet the following requirements:

1. Complete at least 45 academic credit hours,
2. Attain at least a 2.5 cumulative GPA,
3. Submit the statement of good moral character and Declaration of Middle Childhood Subject Area Concentration Area form (available from any college advisor).

A Student is officially admitted to the College of Education and Human Services, middle childhood education major, when these items are completed. Upon completion of these items, the student will receive a course of study (DARS Report) from the college's Office of Student Services.

Sign Language Interpreter Admissions Policy

To be considered for admission to the College of Education and Human Services sign language interpreter program, students must meet the following requirements:

1. A.A. degree in sign language interpreting or the equivalent
2. Cumulative grade point average of at least 2.35

3. Base line proficiency of American Sign Language as determined by the SLI faculty of the Department of Human Services
4. Successful completion of writing skills test
5. Admission interview by the SLI Interview Committee

A Student is officially admitted to the College of Education and Human Services, sign language interpreter major, when these items are completed. Upon completion of these items, the student will receive a course of study (DARS Report) from the college's Office of Student Services.

Rehabilitation Services Admissions Policy

To be considered for admission to the College of Education and Human Services rehabilitation services program, students must meet the following requirements:

1. Complete at least 24 academic credit hours,
2. Attain at least a 2.35 cumulative GPA,
3. Complete a Change of Major Application.

A student is officially admitted to the College of Education and Human Services, rehabilitation services major, when these items are completed. Upon completion of these items, the student will receive a course of study (DARS Report) from the college's Office of Student Services.

Note: The admission policy for a rehabilitation services minor or dual major is the same as for a rehabilitation services major. Students are advised to complete an Application for Entering a Dual Major/Double Degree Program or Adding a Minor and bring the application form to the college's Office of Student Services. Then the student will receive a course of study (DARS report) from the college's Office of Student Services.

Organizational Leadership Admissions Policy

To be considered for admission to the College of Education and Human Services organizational leadership program, applicants must meet the following requirements:

1. A completed associate's degree or equivalent (90 quarter hours);
2. Cumulative GPA of 2.0 or higher;
3. If an associate's degree has not been earned, two of the following: ACC 204 (Accounting Principles I), EC 204 (Principles of Microeconomics), TMK 200 (Technical Marketing-available at Wright State University-Lake Campus)

A student is officially admitted to the College of Education and Human Services, organizational leadership major, when these items are completed. Upon completion of these items, the student will receive a course of study (DARS report) from the college's Office of Student Services.

Career and Technical Teacher Licensure

Individuals interested in obtaining initial education teacher licensure and endorsements are encouraged to contact the college's Office of Student Services in 378 Allyn Hall, (937) 775-3086, to begin the process of admission and advising.

Transfer Students

Students transferring to Wright State University from other institutions or from other colleges of Wright State University must meet the same standards for admission to the teacher education programs in the College of Education and Human Services detailed above, including the 2.5 GPA, the completion of 45 credit hours (or equivalent) of college credit, and the required scores on the PRAXIS I test for teacher education. Rehabilitation services majors need a 2.35 GPA and 24 credit hours completed. Organizational Leadership students need an associate's degree or equivalent (90 quarter hours), 2.0 GPA, and two of the three prerequisite classes listed above if no associate's degree has been earned.

Office of Professional Field Experiences

All of the College of Education and Human Services licensure programs include rich practicum experiences. Most placements originate from the Office of Professional Field Experiences (OPFE), located in 378 Allyn Hall. Practicums are infused in the teacher licensure programs. To sign up for a practicum experience, students must fill out the practicum online application at <http://www.cehs.wright.edu/pfe/>. Students must also attend the appropriate information sessions and/or orientation meetings; information regarding these meetings is detailed at the above Web site. The online application must be submitted early in the term prior to the one for which the practicum is requested (summer term excluded). For example, for a practicum requested for spring term, the online application must have been received by the first week of winter term.

The OPFE makes arrangements with local school districts within a 30-mile radius of Wright

State University. Since the OPFE places over 500 students each term, school administrators have requested that our students not contact schools directly for a placement. It is imperative that all contacts for a practicum originate in the OPFE.

Advising

The main purpose of advising is to assist students in the development of meaningful educational plans that are compatible with their life goals. Advising is a continuous process of clarification and evaluation.

The ultimate responsibility for making decisions about life goals and educational plans rests with the individual student. Advisors assist by helping identify and assess alternatives and consequences of decisions.

Upon admission to the College of Education and Human Services, each student is assigned two advisors: a faculty advisor and a student services advisor. (Student services advisors work with all of our undergraduate students, not just those enrolled in a teacher education program.)

Your faculty advisor can:

- assist you with decisions relating to your career choices;
- assist you with other issues relating to professional development and ethics;
- determine appropriateness of course substitutions or program changes (in concert with a licensure advisor);
- interpret institutional requirements
- increase your awareness of educational resources available;
- evaluate your progress toward your professional goals;
- facilitate the development of decision-making skills;
- reinforce the need for student self-direction;
- refer you to other institutional and community support services where appropriate.

Your student services advisor can:

- prepare an individual program of study for your degree program, including the college's athletic training, organizational leadership, and rehabilitation services programs;
- assist you in choosing the proper courses to prepare for your future career, and—for those in a teacher licensure program—to meet state licensure requirements;
- help you determine the best sequence for the courses you should take for licensure and graduation;

- help you choose the best program possible by discussing the uniqueness of your specific situation;
- answer questions about university or licensure requirements;
- consult with you about course substitutions or program changes;
- provide clearance and approval services for new students entering programs, approve initial field placement or practicum applications, approve student teaching applications, and approve graduation applications;
- provide a "senior check" for students who have approximately 70 hours remaining to be completed.

Because of the sequential nature of many courses and the prerequisites needed in both professional and academic components of the degree programs, students are strongly encouraged to consult an advisor before registering. Any deviation from the specified curriculum should be discussed in detail with an advisor. The college provides undergraduate guidebooks for teacher education programs. Early childhood education (ECE) undergraduate students can access the ECE Handbook during Phase 1, online through course studio. In RHB 201, undergraduate guidebooks are distributed for the rehabilitation services program. These guidebooks should be studied carefully and kept with all academic records.

Accessing an Advisor

Students seeking their faculty advisor should visit during the faculty person's posted office hours and/or by appointment. Information regarding faculty advisor assignment, location, and office hours can be obtained from the college's Office of Student Services, 378 Allyn Hall.

Students wishing to consult with their student services advisor, including rehabilitation services, organizational leadership, and athletic training, may do so during open advising sessions. Students are assigned an individual licensure advisor; however, students may consult with any student services advisor who is available at the time of their visit. Refer to the college's Office of Student Services Web site at <http://www.cehs.wright.edu/ss/> to view the current walk-in advising dates and times, or visit the office in 378 Allyn Hall. Students who are unable to see a licensure advisor during the posted walk-in advising times may arrange for an advising appointment. Call (937) 775-3088 for appointment times or visit the office.

Retention

To increase their likelihood of success, students in professional degree programs must meet certain criteria, at various stages in the program, to earn recommendation for licensure and graduation. These criteria reflect academic standards and show that students can effectively perform responsibilities that include the ability to provide for students' safety; effectively communicate with students orally and in writing; provide a stable, supportive environment that will promote student growth; and manage the instructional program for individuals, and for small and large groups.

Faculty members, on the basis of their knowledge of students and their professional observations, evaluate students' progress in meeting these criteria and decide whether to retain and recommend students for teacher licensure and graduation.

Students in Rehabilitation Services should meet with their faculty advisor throughout their course of study to discuss their career goals and future as a rehabilitation services provider. Rehabilitation Services majors earn a Bachelor of Science degree.

Technology Policy and Technology Fee

For admission to the college, all College of Education and Human Services students, graduate and undergraduate, part-time and full-time, will be expected to certify that they own or have access to a computer and the Internet.

In order to meet the college mission of "preparing professionals to meet the educational, leadership, and human services needs of a diverse, democratic society," it is necessary for our students to be actively engaged in the technological environment the college and Wright State University are creating. An increasing number of classes and options will become available to students using a variety of distributed learning formats; library resources are available in a growing number of full-text formats; and global connections via telecommunications will be part of daily operations. Students preparing to become professionals in education and human service areas must demonstrate appropriate and effective skills and knowledge in the technological aspects of their work.

Minimum equipment requirements are recommended by Wright State University's Computing and Telecommunications Services (CaTS). For current information regarding minimum requirements, go to <http://www.wright.edu/cats/purchase/pgguidelines.html>.

The college supports Macintosh computers in faculty and staff offices and maintains a computer

lab. Wright State University has purchased a site license for most Microsoft software (see the Web page for Wright State's Computing and Telecommunications Services, <http://www.wright.edu/cats>, for details).

Students entering programs that require formal assessment activities will be billed a one time, non-refundable, \$100 technology fee. For more information, visit the college's Web site at <http://www.cehs.wright.edu>.

Athletic Training

The athletic trainer is a qualified health care professional, educated and experienced in the management of health care problems of the physically active. In cooperation with physicians and other allied health care personnel, the athletic trainer is an integral member of the athletic health care team in secondary schools, colleges and universities, professional sports programs, sports medicine clinics, industrial settings, and other health care settings. The mission of the WSU athletic training program is to provide the opportunity for students to gain knowledge, skills, and experiences, as well as to develop positive attitudes in working with the physically active, injured, or ill.

The Athletic Training Program at Wright State is accredited by the Commission on Accreditation of Athletic Training Education (CAATE). Graduates of the program will also be eligible to take the Board of Certification (BOC) examination and to apply for Ohio licensure from the Ohio Occupational Therapy (OT)/Physical Therapy (PT)/Athletic Training (AT) Board.

For the most current information, please contact the Department of Health, Physical Education, and Recreation (HPR) and the Office of Athletic Training, Room 316 E. J. Nutter Center, call (937) 775-3259/3223/3827, or check the Web site at http://www.cehs.wright.edu/academic/health_physed/athletic_train/index.php

Athletic Training Admissions and Progression

For current information about admission to the athletic training program, please contact the Department of Health, Physical Education and Recreation (HPR) and the Office of Athletic Training, Room 316 E. J. Nutter Center, call (937) 775-3259/3223/3827, or check the Web site at http://www.cehs.wright.edu/academic/health_physed/athletic_train/index.php.

Athletic Training (ATR) Program Description

The Athletic Training Program, leading to a Bachelor of Science in Education (B.S.Ed.), with or without teaching licensure, is designed to meet students' individual needs. The baccalaureate program in athletic training is a separate major within the Department of Health, Physical Education and Recreation in the College of Education and Human Services. In order to be eligible to apply to the athletic training program, students should be accepted as degree-seeking students at Wright State University. Each spring a set number of students is selected for admission to the athletic training program for the following fall. The number of students selected depends on the number of approved clinical instructors and clinical settings available. The application deadline is March 1st. Please visit the following http://www.cehs.wright.edu/academic/health_physed/athletic_train/index.php and look at the "Program Information and Important Downloads" section in the left column for more information. The ATR curriculum is 10 quarters in length. ATR courses are sequential, beginning each fall. These classes cannot be taken out of sequence.

Athletic Training Program, Level I (Year 1)

Students are enrolled in the following courses each quarter

- Fall: ATR 261, ATR 284
- Winter: ATR 262, ATR 286, ATR 302, and HPR 250
- Spring: ATR 360, ATR 386, and HPR 251

Athletic Training Program, Level II (Year 2)

To progress to this level, students should meet the following requirements:

- Complete 45 quarter hours
- Maintain a cumulative GPA of 2.5 or higher
- Complete first-year course work with an average grade of B or better (i.e. ATR 261, ATR 284, ATR 262, ATR 286, ATR 302, ATR 360, ATR 386, HPR 250, HPR 251)
- Complete all ATR classes with a grade of C or better
- Demonstrate proficiency in athletic training knowledge and skills
- Be admitted to the College of Education and Human Services before or during fall quarter of the student's second year in the program (if intending dual major in HPR).

Athletic Training Program, Level III (Year 3)

To progress to this level, students should meet the following requirements:

- Complete 90 quarter hours
- Maintain a cumulative GPA of 2.5 or higher
- Complete second-year course work with an average grade of B or better (i.e. ATR 361, ATR 384, ATR 385, ATR 303, ATR 285)
- Complete all ATR courses with a grade of C or better
- Demonstrate proficiency in athletic training knowledge and skills

Transfer Students

The athletic training curriculum is 10 quarters in duration, beginning each fall. The program is sequential and therefore cannot be completed in less time. The application deadline is March 1 for the following fall. For more information on the application process, please visit our Prospective Students Web site at http://www.cehs.wright.edu/academic/health_physed/athletic_train/prospective.php. All ATR classes must be taken at Wright State.

Program Information Application Process

Students interested in athletic training should forward the following information to the Education Coordinator on or before March 1:

- Completed application form
- Recommendation forms (three) from the following individuals
 - o A current or former employer/administrator
 - o A current or former teacher
 - o A certified athletic trainer or coach
- Typed statement of 250 words or less describing life experiences the applicant brings to WSU's ATR program
- Unofficial high school and (if applicable) college transcript
- Current Medical History Form, including HBV records
- Proof of current physical exam
- Signed Technical Standards Form
- Copy of WSU acceptance letter

The staff will review applications. Interviews will be conducted with qualified individuals, and students will be notified of admittance into the Athletic Training Program by April 15.

Retention/Probation Policy

The following policy will be used for any ATR student who is experiencing academic difficulties. It will be in effect when a student drops below a cumulative grade point average of 2.5. The student will be placed on probation until the cumulative GPA is raised to the minimum 2.5 or above. Guidelines—mandatory study tables with a minimum of six hours weekly, tutoring, no team travel, and a reduction of weekly field experience hours.

If a student falls below 2.5 for two consecutive quarters, he/she will not be permitted to accumulate any further field experience hours.

If a student falls below 2.5 for three consecutive quarters, he/she will be dismissed from the program.

Degrees and Areas of Study

Please review the teacher education content preparation programs in the College of Science and Mathematics and the College of Liberal Arts sections of this catalog. Many teaching areas require a bachelor's degree in the content area, with teacher preparation being provided on the graduate level within a master's degree program. Examples include Mathematics Education, Science Education (Biology, Chemistry, Physics, etc.), Modern Languages Education, (French and Spanish), Social Studies Education, English Education, and Art Education.

The college offers curricula leading to the Bachelor of Science in Education degree in selected teaching fields and for selected age levels, and to recommendation for Ohio teacher licensure in the fields listed following. Teacher licensure in Ohio also requires passing scores on examinations mandated by the Ohio Department of Education.

The teacher preparation programs meet the State of Ohio Standards for Colleges and Universities for preparing teachers. One of the requirements mandated by these standards is the completion of a minimum of 300 practica experience hours prior to student teaching. Full-day and/or half-day practica are required throughout Phase I and Phase II of the early childhood program and multi-age health and physical education program, as well as in Phase I (the undergraduate portion) of the middle childhood program, adolescent to young adult programs, and select multi-age programs.

Early Childhood Education-Grades Pre-K-3, Ages 3-8 (B.S. Ed.)

Middle Childhood Education-Grades 4-9, Ages 8-14 (B.S. Ed.) (graduate program required for licensure)

Multi-Age-Grades K-12, Ages 3-21

Health Education and Physical Education (B.S.Ed.)

Modern Language Education (graduate program required for licensure, see College of Liberal Arts)

Music Education (see College of Liberal Arts)

Visual Arts (graduate program required for licensure) (see College of Liberal Arts, Art Education)

Adolescent to Young Adult-Grades 7-12, ages 12-21

Science Education (graduate program required for licensure) (see College of Science and Mathematics)

English Education (graduate program required for licensure) (see College of Liberal Arts)

Social Studies Education (graduate program required for licensure) (see College of Liberal Arts)

Mathematics Education (graduate program required for licensure) (see College of Science and Mathematics)

Career and Technical-Grades 4 and Beyond, Ages 8 and Beyond

Technical Education (B.S.Ed.)

Marketing Education (B.S.Ed.)

Integrated Business Education (B.S.Ed.)

Rehabilitation Services

(B.S., Rehabilitation Services)

The College of Education and Human Services offers a four-year curriculum leading to a Bachelor of Science degree with a major in rehabilitation services. This program prepares students to work with people who have disabilities, are in the penal system, abuse substances, or are under the auspices of the human services system.

Sign Language Interpreter

The College of Education and The Department of Human Services in the College of Education and Human Services offers a Bachelor of Science in Sign Language Interpreting (SLI) designed for students who have completed an associate's degree in sign language interpreting or the equivalent.

In this program, students will complete 60 quarter hours of professional requirements focusing on sign language interpreting and deafness, and approximately 44 quarter hours of general education courses beyond the associate's degree.

Organizational Leadership

(B.S., Organizational Leadership)

This B.S. degree completion program is a leadership-focused, multidisciplinary, application-oriented major. It is designed for students with a two-year degree or its equivalent who want a broad academic background to prepare them for supervisory and management careers. The major combines courses in communication and leadership skills with the study of leadership theory and practice. Students will also learn problem-solving techniques and complete a leadership skill project. This integrated major prepares today's and tomorrow's leaders for challenges across all career fields.

Endorsement/Validation of Standard Teaching Licenses

Curricula are available to validate standard teaching licenses in the following areas:

- Adapted Physical Education
- Teaching English to Speakers of Other Languages (TESOL)

Degree Requirements

Students completing the teacher preparatory program in early childhood education, integrated business education, marketing education, and health and physical education earn the Bachelor of Science in Education degree. Students in the teacher preparatory program in middle childhood education earn the Bachelor of Science in Education degree upon completion of two teaching field concentrations and Phase I of the professional concentration, but Phases II and III of the professional concentration must be taken at the graduate level to obtain licensure. A sample graduate program follows:

Sample Graduate Program of Study Classroom Teacher: Middle Childhood (for informational purposes only)

ED 600 Classroom Management:	4
ED 602* Education in a Pluralistic Society: Middle Childhood Perspective	4
ED 606 Reading and Literacy Instruction I: Middle Childhood Level	4.5
ED 607 Reading and Literacy Instruction II: Middle Childhood Level	4.5
ED 612* Practicum I: Middle Childhood Level	1
ED 614 Practicum II : Middle Childhood Level	1
ED 616 Practicum III: Middle Childhood Level	1
ED 621* Human Development and Learning: Middle Childhood Perspective	4
ED 641 Internship/Seminar: Middle Childhood Level (Student Teaching)	12
ED 709 Diagnosis and Assessment of Reading Performance	4.5

ED 714 Inquiry and Assessment for Middle Childhood	4
ED 717 Word Study: Phonics Middle Level	5
ED 732 Principles and Practices of Middle Schools	4
ED 771 Inquiry Project (req. for M.Ed.)	1
EDS 624* Addressing Learning Differences	4
Methods courses specific to the program of study (see below)	8
Total	66.5

Methods Courses: Choose Two

ED 610 Middle Childhood Mathematics: Philosophy and Curriculum	4
ED 624 Middle Childhood Literature, Speech, and Drama	4
ED 629 Middle School Social Studies Methods	4
ED 636 Integrated Middle Childhood Level Science Methods	4
Total	8

Option 1

To complete licensure, 65.5 graduate hours are required (only 52.5 graduate hours if Phase I* course work is not needed).

Option 2

To complete the M.Ed. the following one-hour graduate course is required (only 53.5 graduate hours if Phase I* courses are not needed):

ED 771 Inquiry Project Completion	1
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* Phase I courses consist of ED 602 (4), ED 612 (1), ED 621 (4), and EDS 624 (4). Phase I courses are not needed if the equivalent courses were completed as part of the undergraduate program.

General Degree Requirements

1. Completion of a minimum of 183 credit hours
2. Fulfillment of university General Education requirements
3. An overall cumulative GPA of 2.5 or higher for teacher education, 2.35 for rehabilitation services, 2.0 for organizational leadership, 2.0 for middle childhood education, and 2.5 for athletic training

Specific Requirements

Early Childhood Education (Grades Pre-K–3, Ages 0–8)

This program leads to licensure in Early Childhood Education for Pre-K to third grades (Ages 0–8).

1. General requirements listed previously
2. Of the 190 credit hours required for graduation, a minimum of 83 quarter hours in professional education courses
3. A cumulative GPA of 2.5 or better to student teach and graduate

4. Completion of prescribed pattern of courses

Middle Childhood Education (Grades 4–9, Ages 8–14)

This program does not result in state licensure at this level; additional graduate work is required.

1. General requirements listed previously
2. Of the 191 hours required for graduation, a minimum of 16 quarter hours in professional education

Rehabilitation Services

1. General requirements listed previously
2. Completion of a minimum of 192 credit hours
3. Completion of prescribed pattern of courses

Sign Language Interpreter

1. General requirements listed previously
2. Completion of a minimum of 192 credit hours
3. Completion of prescribed pattern of courses

Organizational Leadership

1. General requirements listed previously
2. Completion of a minimum of 193 credit hours
3. Completion of prescribed pattern of courses

Health Education and Physical Education (Grades Pre-K–12, Ages 3–21)

1. General requirements listed previously
2. Completion of a minimum of 187 credit hours
3. A cumulative GPA of 2.5 or better to student teach and graduate
4. Completion of prescribed pattern of courses

Athletic Training

1. General requirements listed previously
2. Completion of a minimum of 194 credit hours, without teaching
3. Completion of a minimum of 251 credit hours, with teaching
4. Completion of prescribed pattern of courses

Marketing Education (Grades 4 and beyond, Ages 8 and beyond)

1. General requirements listed previously
2. Completion of a minimum of 186 credit hours
3. A cumulative GPA of 2.5 or better to student teach and graduate
4. Completion of prescribed pattern of courses

Integrated Business Education (Grades 4 and beyond, Ages 8 and beyond)

1. General requirements listed previously

2. Completion of a minimum of 202 credit hours
3. A cumulative GPA of 2.5 or better to student teach and graduate
4. Completion of prescribed pattern of courses

Career and Technical Education (Grades 4 and beyond, Ages 8 and beyond)

1. General requirements listed previously
2. Completion of a minimum of 185 credit hours
3. A cumulative GPA of 2.5 or better in professional education coursework
4. Completion of prescribed pattern of courses

Honors Program

Outstanding students enrolled in programs in the College of Education and Human Services have an opportunity to complete the University Honors Program or an honors program in education, in rehabilitation services, and in health, physical education, and recreation. These programs provide students with expanded opportunities for creativity, self-direction, and excellence through special honors courses and an extended period of independent study.

Junior-level or senior-level students enrolled in the College of Education and Human Services major are eligible for the honors program if they have maintained a 3.0 overall cumulative GPA, as well as a 3.0 cumulative average in professional education, and have been recommended by a faculty member from the program area in which they plan to work.

Students interested in pursuing an honors program should consult their faculty advisor.

Recommendation for Licensure

Every teacher in Ohio public schools is required to be licensed in the field or fields in which he or she is teaching. This license is issued by the Ohio Department of Education upon the recommendation of the College of Education and Human Services. Students may apply for licensure in the College of Education and Human Services Office of Student Services during the last quarter of their professional undergraduate programs. (Note: Many programs require graduate level study for licensure.) A candidate for teaching licensure at Wright State University must be deemed of good moral character, have successfully completed the approved program of teacher preparation, obtain passing scores on the Praxis II exams, and be recommended by the dean of the College of Education and Human Services. Finger printing and a background check are also

required for all applicants to receive an initial license.

"Good moral character" is defined as not having pleaded guilty to or not having been convicted of any felony; any violation of Section 2907.04 (Corruption of a Minor), Section 2907.06 (Sexual Imposition), or Division (A) or (C) of Section 2907.07 (Importuning) of the Revised Code; any violent offense, theft offense, or drug abuse offense that is not a minor misdemeanor; or any substantively comparable ordinance of a municipal corporation or of another state. An individual who has pleaded guilty to or has been convicted of any such offense may have an application for licensure considered by the State Board of Education, provided the individual meets the conditions specified in rule 3301-23-23 of the Administrative Code.

Licensure of Students From Other Colleges Within the University

Students who receive degrees from other colleges within the university may also wish to obtain teaching licenses. Recommendation for licensure will occur only after a student satisfactorily completes all of the requirements of the College of Education and Human Services. These include admission; selective retention; the major teaching field and related requirements, the preprofessional and Phase I professional courses and professional courses at the graduate level; and a passing score on the Praxis II exam(s).

Licensure for Holders of Nonprofessional Degrees

Students who are graduates of other accredited colleges or universities must meet the licensure requirements for their chosen teaching area. See a Student Services Advisor for additional information.

School Nurse Licensure Program

The School Nurse Licensure program is offered as a graduate program. The 22-credit, graduate-level program leads to endorsement for licensure as a school nurse in the state of Ohio.

Prerequisites:

1. Baccalaureate degree with course work in growth and development, psychology, sociology, and/or anthropology.
2. License to practice professional nursing in the state of Ohio.

3. Course work in community health. For more information, refer to the College of Nursing and Health (937) 775-3131 or the Department of Health, Physical Education, and Recreation (937) 775-3223.

Student Organizations

The following organizations are available to students of the College of Education and Human Services:

- African American Teachers Association provides a forum for students, faculty, and staff who are interested in the teaching profession and provides support, information, and community outreach.
- The Collegiate Middle Childhood Association provides a forum for undergraduate and graduate students who are interested in the middle school student and the professional issues and activities of the middle childhood teacher.
- Graduate students majoring in one of the college's counseling programs may be invited to join Chi Sigma's Iota, an international honors society for counseling professionals.
- Kappa Delta Pi is an international honor society in education. Individuals are invited to become members of the society, by vote of the chapter, because of high academic achievement and because they have exhibited a professional attitude indicating their ability to grow in the field of education.
- The Wright State University Rehabilitation Club provides rehabilitation majors and minors with opportunities to develop contacts with rehabilitation professionals, participate in professional conferences and service projects, and interact with peers on a social level.
- Student Council for Exceptional Children (SCEC), an affiliate of the International Council for Exceptional Children, is an organization for people (including rehabilitation counselors and intervention specialist teachers) interested in service for exceptional learners.
- The American Sign Language (ASL) Club provides an organization for those interested in learning about deaf culture and American Sign Language. This club invites deaf and hearing alike to participate.
- The Organizational Leadership Club is designed for Organizational Leadership majors to network with one another and with the larger Miami Valley community. It also

allows members to participate in professional development opportunities.

- Wright State University's student chapter of The National Association for the Education of Young Children (NAEYC) is dedicated to improving the well-being of all young children, with particular focus on the quality of educational and developmental services for all children from birth through age 8. Membership is open to all individuals who share a desire to serve and act on behalf of the needs and rights of all young children.
- The Athletic Student Organization provides athletic training students the opportunity for networking so they can become leaders in the Athletic Training profession. This organization will strive to create an optimal learning environment, create a social network within the health care community, and provide students avenues of resources for future problems or issues

Programs of Study

Athletic Training

The athletic training program leads to a Bachelor of Science in Education (B.S.Ed.) degree, with or without teaching licensure, and is designed to meet students' individual needs. The certified athletic trainer is increasingly viewed as the expert in care of the physically active. Therefore, Wright State's program prepares self-directed graduates who can function in a number of settings and work in collaboration with other health care professionals to coordinate and improve the health care of the physically active. Individuals interested in pursuing Athletic Training with teaching should contact the Office of Student Services (937) 775-3086 for additional information.

Degree Requirements—Athletic Training

See General Education Requirements

General Education	56
Required Courses	
Area V: BIO 107; HPR 250, 251	
Area VI: RHB 210	
Health Education Content	20
HED 230, 231, 333, 334, 430	

Physical Education Content	22
HPR 212, 243, 245, 345, 353, 355, 362, 445	
Athletic Training Requirements	70
ATR 261, 262, 284, 285, 286, 302, 303, 360, 361, 384, 385, 386, 460, 461, 484, 485, 486, 487	
Related Course Requirements	37
ANT 201, 202; BIO 101, 105, 111; CHM 101, 102; P&B 301, 302	
Total	205

Biological Sciences Education

see Biological Sciences Education programs in the College of Science and Mathematics Section.

Business Education: Integrated

The Integrated Business Education Comprehensive Licensure program leads to the Bachelor of Science in Education degree and state licensure. The program is designed to prepare outstanding teaching professionals in business education by offering a balanced program combining general education, professional education, and business content. The provisional career technical license in business education in Ohio is valid for teaching business subjects to learners ages eight and beyond and grades four and beyond.

Degree Requirements—Integrated Business Education

Bachelor of Science in Education

NOTE: This program was undergoing revision when the catalog went to press. For the most up to date information, consult the online Undergraduate Catalog (www.wright.edu/catalog).

See General Education Requirements

General Education	52
Required Courses	
Area III: EC 204 and 205 (counted below in Curriculum Content)	
Area VI: ED 210	

Curriculum Content 106–109

ACC 204, 205
 CEG 210
 CS 141, 142, 205, 214
 EC 204, 205
 EDT 211, 212*, 220*, 221*, 222*, 305*, 306*, 433, 434, 455
 ENG 330
 LAW 300
 MGT 304
 MKT 300, 303
 Choice of one: MKT 336, 421, 447
 MTH 127
 VOE 401, 406, 421, 431

Professional Education 43–45

COM 101
 ED 221, 301, 303, 223, 321, 323, 429, 432, 440
 EDS 333
 EDT 280

Total 202

*These courses are to be taken at Sinclair Community College, Clark State Community College, Edison State Community College, or another approved two-year institution.

Final recommendation for licensure requires satisfactory completion of Praxis II examinations.

Chemistry Education

See the Chemistry and Chemistry Education programs in the College of Science and Mathematics section.

Early Childhood Education Pre-K–3 Program

NOTE: This program was undergoing revision when the catalog went to press. For the most up to date information, consult the online Undergraduate Catalog (<http://www.wright.edu/catalog>).

The Pre-K-3 licensure program prepares students to teach children from birth through grade three. The Pre-K-3 license qualifies a graduate for employment in daycare, nursery school, headstart,

public and private preschools, and primary (K-3) elementary grades. Students will be required to work with children from birth through third grade in Phases I, II, and III. The program requires courses in general education, professional education, and content curriculum.

Degree Requirements- Early Childhood Education (Pre-K–3, Ages 3–8)

See General Education Requirements

General Education 57.5

Required Courses

Area I: MTH 143
 Area V: BIO 345*, EES 345*, PHY 245*
 Area VI: ED 210

Curriculum Content 51.5

AED 431
 COM 103
 EDE 230
 EDT 280
 GEO 201, 202, or 203
 HED 331
 HPR 281
 HST 211, 212
 MTH 243, 244
 MUS 365
 SM 144

Professional Education 83

ED 311, 316, 317, 407, 411, 415, 417
 EDE 221, 223, 225, 227, 231, 301, 302, 303, 307, 315, 318, 321, 323, 401, 419, 440, 464

Total 192

Final recommendation for licensure requires satisfactory completion of Praxis II examinations.

*Satisfies General Education science requirements.

Earth Science Education

See Geological Sciences Education and Physics Education in the College of Science and Mathematics.

English Education

See Integrated Language Arts/English Education in the College of Liberal Arts section.

General Science Education

See Integrated Sciences Education in the College of Science and Mathematics section.

Health Education and Physical Education (Multi-Age)

Degree Requirements—Health Education and Physical Education (Multi-Age, Pre-K–12, Ages 3–21)

Bachelor of Science in Education Degree

See General Education Requirements

General Education	56
Required Courses	
Area V: BIO 107; HPR 250, 251	
Area VI: ED 210	
Curriculum Content	97
ED 432	
HED 230, 231, 332, 333, 334, 335, 385, 430	
HPR 200, 201, 202, 203, 212, 241, 245, 261, 311, 345, 353, 355, 356, 362, 385	
Professional Education	26–28
Phase I	
ED 221, 303	
Phase II	
ED 321, HED 485, HPR 385	
Phase III	
ED 429, HPR 445	

Technology/Communication	8
COM 101	
EDT 280	
Total	187–189

Final recommendation for licensure requires satisfactory completion of Praxis II examinations.

Optional Endorsement

Adapted Physical Education (APE) Endorsement

EDS 444, 459; HPR 212, 213, 214, 284, 312, 384, 410, 484

Formal application is required for admission to the APE endorsement program. Please visit the Department of Health, Physical Education and Recreation Web site at <http://www.cehs.wright.edu/departments/hpr/> for application materials. In addition to course work, successful completion of the Adapted Physical National Certification Examination is required to be a program completer.

History Education

See Social Science Education in the College of Liberal Arts section.

Integrated Business Education

See Business Education: Integrated in this section.

Marketing Education

The Marketing Education program leads to the Bachelor of Science in Education degree and state licensure. The program is designed to prepare outstanding teaching professionals in marketing education by offering a balanced program combining general education, professional education, and marketing content. The provisional career technical license in marketing education in Ohio is valid for teaching marketing subjects to learners ages eight and beyond and grades four and beyond.

Degree Requirements— Marketing Education

NOTE: This program was undergoing revision when the catalog went to press. For the most up to date information, consult the online Undergraduate Catalog (<http://www.wright.edu/catalog>).

Bachelor of Science in Education Degree

See General Education Requirements

General Education	52
Required Courses:	
Area III: EC 204, 205 (counted below in curriculum content)	
Area VI: ED 210	
Curriculum Content	91–94
ACC 204, 205	
CS 205	
EC 204, 205	
EDT 211, 212*, 305*, 306*, 433, 445	
ENG 330	
LAW 300	
MGT 304	
MKT 300, 303	
Choice of five: MKT 325, 366, 421, 446, 447, 461	
VOE 401, 406, 421, 431	
Professional Education	43–45
COM 101	
ED 221, 223, 301, 303, 321, 323, 327, 429, 432, 440	
EDS 333	
EDT 280	
Total	186

*These courses are to be taken at Sinclair Community College, Clark State Community College, Edison State Community College, or another approved two-year institution.

Final recommendation for licensure requires satisfactory completion of Praxis II examinations.

Mathematics Education

See Mathematics Education concentration in the College of Science and Mathematics section.

Middle Childhood Education

**Pre-Professional Program Middle Childhood
B.S.Ed. degree *without* licensure**

Degree Requirements—Middle Childhood Education Grades 4–9

See General Education Requirements

General Education	57.5
Required Courses:	
Area I: MTH 143	
Area II: CST 231, HST 101, 102	
Area IV: ENG 204	
Area V: BIO 345, CHM 246, PHY 246	
Area VI: ED 210	
Curriculum Content	69.5
AED 431	4
COM 152	4
ED 421	3
EDT 280	4
ENG 340, 341	8
GEO 201 or 202 or 203	4
EES 345	4.5
HED 331	4
HPR 260, 281	7
HST 103, 211, 212	12
MTH 243, 244	8
MUS 365	4
SM 145	3
Concentrations	48–59
Choose two of four concentrations, as follows	
<i>English/Language Arts:</i>	28
COM 365	4
ENG 205, 345, 346, 488	16
Choose two: ENG 355, 356, 357	8
<i>Mathematics:</i>	24
MTH 343*, 344, 345, 348, 446	20
STT 342 *	4
*Prerequisite MTH 128 or Level 5 on Math Placement Test	
<i>Social Studies:</i>	28
RST (any RST)	4
HST 221 or 215	4
HST 217	4
Choose one: HST 470, 475, 480	4
PLS 200; PLS 212 or 222	8
GEO 249	4

<i>Science:</i>	24
BIO 346	4.5
CHM 345	4.5
EES 346	4.5
PHY 346	4.5
SM 445, 446	6
Pre-Professional Educational Courses	16
ED 221, 223, 301, 303	
EDS 333	
Total	191

Important

The B.S.Ed. in Middle Childhood does not lead to licensure. Students must complete a graduate level program and Praxis II tests in order to be eligible for a license in Middle Childhood (see sample program). Please direct any questions to a teacher certification/licensure advisor.

Modern Languages Education

See Modern Languages in the College of Liberal Arts section.

Music Education

See Music Education in the College of Liberal Arts section.

Organizational Leadership

Organizational Leadership is a Bachelor of Science degree completion program that is leadership-focused, multidisciplinary, and application oriented. This program is designed for students with a two-year degree or its equivalent who want a broad academic background to prepare them for supervisory and management careers. The major combines courses in communication and administrative skills with the study of leadership theory and practice. Students will also learn problem-solving techniques and complete a leadership skills project. This integrated major prepares today's and tomorrow's leaders for challenges across all career fields.

Degree Requirements-Organizational Leadership

NOTE: This program was undergoing revision when the catalog went to press. For the most up to date information, consult the online Undergraduate Catalog (<http://www.wright.edu/catalog>).

Bachelor of Science Degree

See General Education Requirements

General Education	56
Required Courses:	
Area VI: CNL 210	
Curriculum Content	67
Integrated Leadership Focus:	19
COM 101 and one additional COM course	
Choose one: CS 205, 206, 207	
Choose one: ENG 330, 333, 344	
Choose one: PHL 331, PHL 312, PSY 304, SOC 310, SOC 345, PLS 371, PLS 431, PLS 345/URS 345, WMS 300	
Organizational Leadership Concentration:	48
Choose two prerequisites for admission:	8
Any 100/200 entry-level course in Accounting, Marketing, or Technical Marketing, Economics, Statistics, or Finance.	
Foundations:	16
EDL 301, 302, 303, 304	16
Fundamentals:	16
Required: MGT 304	
Choose three: LAW 300, MGT 321, MGT 485, PLS 434, REL/PHL 371, URS/PLS 346, URS 423, URS 424, URS 450, URS 470, 475	
Skills Integration:	8
EDL 494, 495	
Associate's Degree or Electives	70
Total	193

Physics Education

See Physics Education in the College of Science and Mathematics section.

Political Science Education

See Social Science Education in the College of Liberal Arts section.

Psychology/ Sociology Education

See Social Science Education in the College of Liberal Arts section.

Rehabilitation Services

The rehabilitation services program trains graduates to work in human service agencies that serve people who have disabilities, are homeless, are involved in the court system, use assistive technology, and in a variety of other circumstances. Some common entry points are in case management, employment services, assistive technologies, court systems, and social services. The program also prepares students for graduate study in rehabilitation counseling or related fields. Curriculum flexibility attracts students who are interested in developing a program to reflect their special interests.

For admission to the program, students must have completed 24 college credit hours and have earned a 2.35 GPA. Students must earn a minimum C grade in each professional rehabilitation course requirement. All students must complete a 400-clock-hour internship. Prerequisites for the internship include an overall 2.5 GPA, plus completion of all General Education and rehabilitation courses necessary for preparing the student to complete the field experience. (See course description for more detailed information.)

Degree Requirements— Rehabilitation Services*

Bachelor of Science Degree

See General Education Requirements

General Education	56
Required Courses:	
Area V: BIO 107, or Human Anatomy	12
Area VI: RHB 210	4

Professional Requirements	64
RHB 201, 202, 301, 303, 304, 305, 401, 402, 403, 404, 407	52
CNL 461, 463, 467	12
Related Requirements	43
COM 101	3
MGT 200	4
ATR 482	4
Psychology electives : PSY 311 and 12 hours additional psychology courses	16
Sociology/Anthropology electives	16
Electives	31
Total	192

* Articulation agreements exist with Sinclair Community College, Clark State Community College, Edison State Community College, Owens Community College, University of Cincinnati-Raymond Walters, and Columbus State Community College. Graduates of these colleges may apply many of their previous courses to the rehabilitation services program, Bachelor of Science degree.

Minor in Rehabilitation Services

The minor in rehabilitation services requires 34 credit hours: RHB 201, 301, 303, 304, 402, 403 (six credit hours), 407, and one of the following: RHB 305, 401, or CNL 463.

Rehabilitation minors must meet the same GPA requirements for admission to the program and completion of practicum as rehabilitation services majors.

Sign Language Interpreting

The College of Education and the Department of Human Services in the College of Education and Human Services offer a Bachelor of Science in Sign Language Interpreting (SLI), designed for students who have completed an associate's degree in sign language interpreting or the equivalent.

Today's interpreters work with a variety of deaf consumers: those who acquired American Sign Language (ASL) as their first language, those who communicate through a form of visual English, and those who use a contact variety form of English and ASL. Interpreters also work with a variety of hearing consumers: from those who are familiar with American deaf culture and the process of interpreting, to those who are communicating with a deaf person for the first time.

In this program, students will complete 60 quarter hours of professional requirements and about 44 quarter hours of general education courses beyond the associate's degree.

Degree Requirements—Sign Language Interpreter

Bachelor of Science Degree

General Education Requirements

General Education	56
Required Courses:	
Area V: BIO 107	12
Area VI: RHB 210	4
NOTE: Students are expected to complete a minimum of 12 hours of GE as part of their associate's degree	
Professional Requirements	60
SLI 310, 320, 330, 340, 360, 370, 390, 410, 420, 430, 440, 480, 490	
Professional Electives (select two of the following)	8
SLI 380	
RHB 301, 303, 305, 410, 408	
Transfer Credits/Electives	76
Courses usually taken as part of the associate's degree in interpreting. Must include a course in essentials of public address, (i.e., COM 101).	
Total	192

Science Education

See Integrated Sciences Education in the College of Science and Mathematics section.

Social Studies Education

See Social Science Education in the College of Liberal Arts section.

Visual Arts Education

See Art and Art History in the College of Liberal Arts section.

Career and Technical Education (Formerly Vocational Education)

NOTE: This program was undergoing revision when the catalog went to press. For the most up to date information, consult the online Undergraduate Catalog (<http://www.wright.edu/catalog>).

The career and technical education program prepares teachers from business and industry to teach in one of the five service areas taxonomies. A balanced program of general education, professional education, and study of vocational topics leads to a Bachelor of Science in Education degree. Career Technical licensure can be earned when the candidate has technical course work and recent related work experience. Licensure in other areas can be obtained with a dual major option. Teachers who have completed the vocational education 37-quarter-hour licensure program may apply those hours toward the bachelor's degree.

Option I-Intensive Vocational Major

This option is for practicing certified or licensed vocational teachers who have completed or are currently enrolled in the 37-quarter-hour vocational preservice program and who are seeking a Bachelor of Science in Education. No other licensure will be earned.

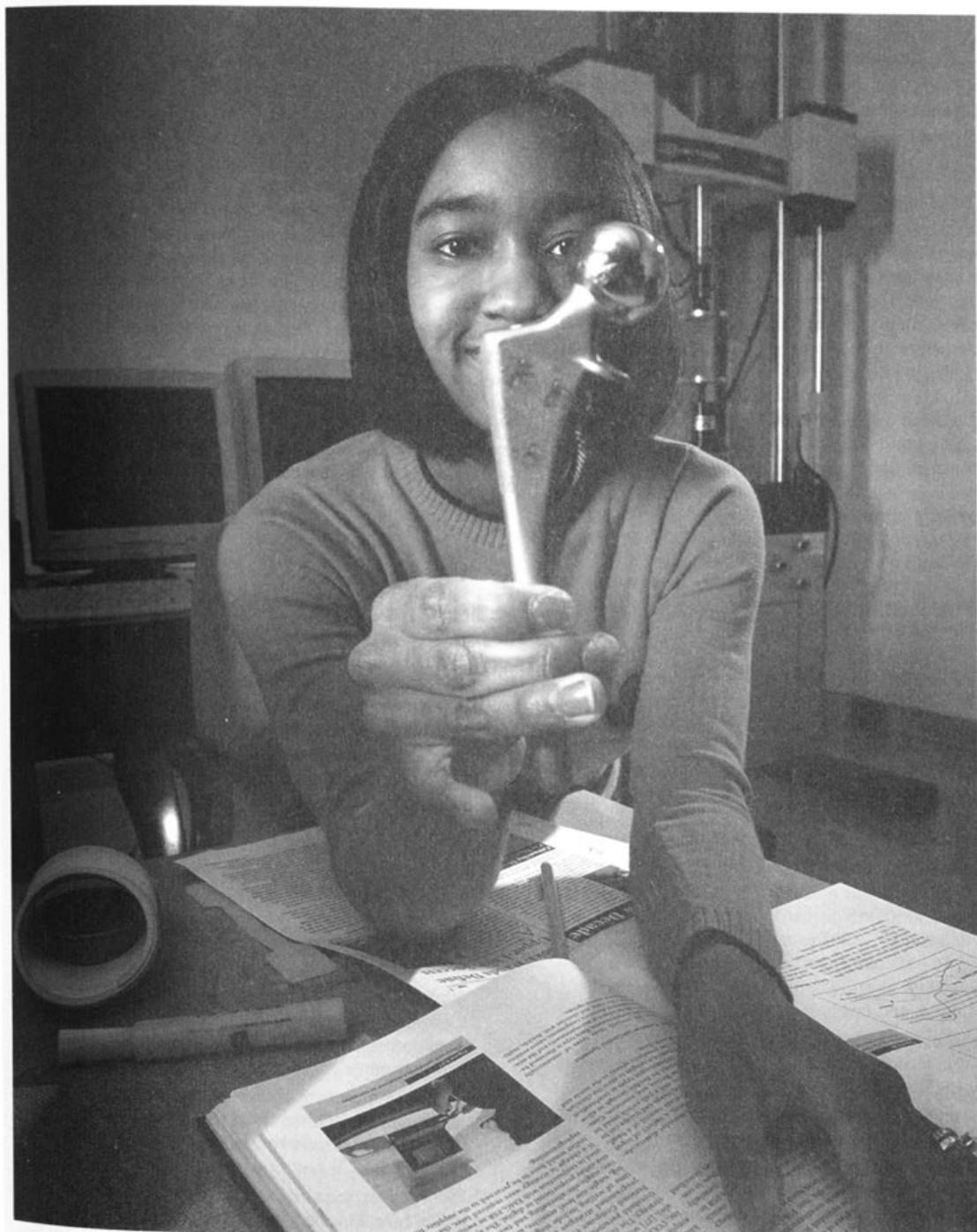
Bachelor of Science in Education Degree

See General Education Requirements

General Education	56
Required Course:	
Area VI: ED 210	
Professional Education	20–27
CS 205	4
ED 301, 303, 432	15
ED 458	1–9
EDS 333	4
TOA 210	
VOE 406, 410, 421, 451, 458	
Career and Technical Education Licensure	37
EDT 280	4
VOE 411, 421, 431, 451, 458, 469, 471, 472, 475	33
Other Required	6
COM 101	3
EDT 211	3
Electives	59–76
Up to 30 hours of a technical major may also be applied	
Total	187

Note: A technical major of at least 30 credit hours can be used in the vocational block to complete the content major in vocational education. NOTCI test and technical course work may fulfill partial requirements for vocational credits.

ENGINEERING AND COMPUTER SCIENCE



Dean Bor Z. Jang

Associate Dean Nikolaos Bourbakis

Assistant Dean Thomas L. Bazzoli

Assistant Dean Ruby Mawasha

Assistant Dean Richard K. Rathbun

Director of Technical Communications Leo Finkelstein

Department/Chair:

Biomedical, Industrial and Human Factors Engineering
S. Narayanan

Computer Science and Computer Engineering
Forouzan Golshani

Electrical Engineering
Fred D. Garber

Mechanical and Materials Engineering
George Huang

The College of Engineering and Computer Science offers eight undergraduate bachelor of science degree programs to prepare students for professional careers. All eight of the programs are accredited by the Accreditation Board for Engineering and Technology (ABET). The college also offers an undergraduate bachelor of arts degree program in computer science. The programs of study are regularly updated, so students can take advantage of the latest technological advances.

The college is committed to providing an outstanding professional education to its students. This is accomplished by excellence in teaching, research, and service and by collaborating with business and industry. As part of its commitment to collaborating with industry, the college is dedicated to developing programs important to the region and to making its programs and courses available to part-time and working students.

The undergraduate programs are intended to produce engineers and computer scientists prepared for entry into professional practice or graduate study. The programs provide an understanding of basic science and engineering fundamentals, as well as modern professional practice, and also provide good, practical, and hands-on experience obtained from a strong laboratory program and real world problem solving. In particular, the college graduates will have

- an ability to apply knowledge of mathematics, science, and engineering
- an ability to identify, formulate, and solve engineering and science problems as appropriate to the discipline
- an ability to design and conduct experiments, as well as to analyze and interpret data
- an ability to design a system, component, or process to meet desired needs

- an ability to use techniques, skills, and modern tools necessary for professional practice
- an ability to function on multi-disciplinary teams
- an ability to communicate effectively
- an understanding of professional and ethical responsibility
- a knowledge of contemporary issues
- the broad education necessary to understand the impact of engineering and scientific solutions in a global and societal context
- a recognition of the need for, and an ability to engage in, lifelong learning.

The college offers master's degrees in engineering and computer science. The college also offers a Ph.D. program in engineering and a Ph.D. program in computer science and engineering.

Modern laboratory facilities provide ample equipment for instructional support and research in a number of areas. The college manages and maintains a number of computer systems and laboratories that are available to students. These include Compaq servers, Silicon Graphics (SGI) servers, Sun Microsystems servers, and SGI and Sun workstations as well as numerous networked PCs. Access is also available to the Ohio Supercomputer via the Ohio Academic and Research Network (OARNET) and Internet2.

Admissions and Advising

All students interested in earning a degree through the college should apply to Wright State University through the Office of Undergraduate Admissions. When applying, students should indicate their preferred major within the college, if known.

New students are usually assigned to the University College for academic advising. Admission to a degree program in the college is subject to the student's

1. completing at least 45 quarter credits of college-level work,
2. attaining a cumulative GPA of at least 2.25. Computer science students must attain a cumulative GPA of 2.25 in all computer science and computer engineering courses,
3. completing required core courses in English composition, mathematics, computer programming, and chemistry or physics with a grade of "C" or better in each course.

Students are required to complete the program of study in effect at the time of their admission to the

college. When they are admitted to a degree program in the college, students are assigned an academic advisor in the appropriate department. Students should consult with their advisor when first planning their program of study and then at least once a year thereafter to be sure they are following a logical schedule toward graduation.

Transfer students seeking admission to a degree program must have transfer credit equivalent to the first year requirements for the program and must meet the requirements listed previously. Transfer students who do not meet these requirements will be assigned to the University College or to a preengineering or precomputer science program for academic advising.

Students who return to Wright State University after being absent for four or more quarters must reapply for admission and satisfy the admission requirements listed above for new Wright State students. These returning students may be required to complete the program requirements in effect at the time of their readmission to the college. Their academic records will be reviewed by an advisor who will decide where they will be assigned for academic advising.

Degrees and Areas of Study

Bachelor of Science degrees are offered in biomedical engineering, computer engineering, computer science, electrical engineering, engineering physics, industrial and systems engineering, materials science and engineering, and mechanical engineering. A bachelor of arts degree is offered in computer science. Minors are offered in computer science for engineers and scientists, computing and information technology, and materials science and engineering.

Graduation Requirements

To be eligible for the Bachelor of Arts degree or the Bachelor of Science degree, students must

1. complete all of the requirements in one of the college's degree programs,
2. fulfill the university's General Education requirements. Intra-university transfer students who have completed an Area VI college component course do not have to complete EGR 190, the College of Engineering and Computer Science college component course,
3. complete the residency requirement of 45 credit hours at Wright State University, 30 of which must be earned in courses numbered 300 or

above. At least 15 of the last 45 hours of the degree must be taken in residence,

4. complete all academic work with at least a 2.0 cumulative GPA and at least a 2.0 cumulative GPA in all engineering and computer science courses taken at Wright State University.

Students should meet with their academic advisor on a regular basis and especially before their last quarter to be sure they will complete all requirements for graduation.

Honors Program

Honors programs are available in all departments. These honors programs give well-qualified students the opportunity to engage in advanced course work and carry out independent research projects. Students who are interested in an honors program should consult with the chair of the appropriate department. Honors are awarded at graduation.

Cooperative Education

Cooperative education programs are available in all departments. These programs permit students to gain work experience that is relevant to their academic programs. Interested students should contact the Office of Career Services.

General Education Procedure for Area VI

EGR 190-4.0 is the Area VI college component course. All eligible students are required to register for and pass this course. "Eligible" is defined as having earned a total of not more than 45 quarter credit hours in residence at WSU or by transfer credit from another university.

Students who are not eligible to enroll in EGR 190 may substitute one of the following courses for the CECS college component course subject to department advisor approval:

- ISE 210-4.0 Engineering Perspectives
- EES 260-4.0 Environmental Science and Society:
A Cross-Cultural Perspective
- EC 290-4.0 Economic, Business, and Social
Issues
- PSY 110-4.0 Psychology: The Science of
Behavior II
- URS 200-4.0 Growth and Change in Urban
Societies

Area VI Transfer Policy: Students who wish to transfer from another college at WSU to the CECS will take and pass EGR 190, if eligible to enroll in the course, unless they have already completed a college component course.

Student Organizations

The college and its departments sponsor a wide variety of student clubs. Involvement in these clubs allows students to develop closer ties with faculty and other students in the same major. It also gives students the opportunity to work in study groups, join professional organizations, gain career information, participate in professional seminars and tours, and attend social activities.

Clubs available to students are the American Institute for Aeronautics and Astronautics (AIAA), American Society of Mechanical Engineers (ASME), Association for Computing Machinery (ACM), Biomedical Engineering Society (BMES), College Women in Computing Club (CWCC), Institute of Electrical and Electronics Engineers (IEEE), Institute of Electrical and Electronics Engineers Computer Society (IEEE/CS), Institute of Industrial Engineers (IIE), Keramos and Ceramic Engineering Club (KCEC), National Society of Black Engineers (NSBE), Society of Automotive Engineers (SAE), Society of Women Engineers (SWE), Student Government, and the Wright Engineering Council (WEC). The Wright Engineering Council promotes communication and cooperation among all of the college clubs and fosters professional and social growth. A college-wide club fair is held annually in the fall to encourage membership. Students may contact the departments or the college office for information on joining any of the clubs.

The college also sponsors the Ohio Mu chapter of the Tau Beta Pi national engineering honor society. Student membership in Tau Beta Pi is based on high academic achievement.

Biomedical Engineering

Professors Hangartner, He, Narayanan (Chair), Phillips, Rowley

Associate Professor Goswami, Reynolds

Assistant Professors Skipper

Lecturer Kender

The Department of Biomedical, Industrial and Human Factors Engineering offers an undergraduate program in biomedical engineering leading to the Bachelor of Science in Biomedical Engineering. The biomedical engineering program is accredited by the Accreditation Board for Engineering and Technology (ABET). Biomedical engineering is concerned with solving and understanding problems in biology and medicine by using principles, methods, and approaches drawn from engineering science and technology. Biomedical engineering

students work in modern teaching laboratories structured around computer-based engineering workstations and receive intensive academic training in engineering design and analysis principles as well as life science concepts. The senior design course integrates learning in previous engineering courses to solve actual biomedical engineering problems that help prepare students for employment or graduate study. The curriculum provides a solid foundation of courses in physical, life, and engineering sciences, as well as mathematics. Courses in biomedical engineering advance and apply the engineering science to medical devices and living systems.

Biomedical Engineering Program Objectives

- Graduates are expected to utilize the concepts of basic science, biology and engineering as they apply to the discipline of biomedical engineering.
- Graduates are expected to have an understanding of the relationships between human/animal systems and basic science/engineering principles.
- Graduates are expected to utilize their experimental, analytical and computational skills in professional practice.
- Graduates are expected to work productively in a team environment and communicate effectively, both written and orally.
- Graduates are expected to apply biomedical engineering and other engineering/scientific methods and instruments in the design of devices for the diagnosis and therapy of living systems.
- Graduates are expected to have an understanding of their role as biomedical engineers in the context of a multifaceted societal environment, both locally and globally.
- Graduates are expected to succeed in professional practice and/or graduate or medical school.

Current efforts in biomedical engineering at Wright State University include developing medical and surgical instrumentation, designing rehabilitative assistive and intelligent prosthetic/orthotic devices, medical imaging (including computed tomography and ultrasound), biomimetics, and biomedical microdevices. Many of these areas require interfacing complex systems with computer data acquisition and subsequent modeling and analysis with modern engineering software.

Two separate curricula are available. Curriculum A is the traditional ABET accredited degree program. Curriculum B, in addition to being ABET accredited, prepares students to apply for medical school. Students who transfer between curricula must complete the final curriculum in total.

Students who plan to complete departmental honors should meet with his/her academic advisor prior to the third quarter of the junior year.

Biomedical engineers are employed in industry, hospitals, research facilities, government laboratories, and universities in areas such as artificial organs, biomechanics, drug delivery systems, automated patient monitoring, artificial joints, prosthetics, and medical imaging technologies. Graduates may also pursue graduate studies in engineering or life sciences.

Degree Requirements - Biomedical Engineering

Bachelor of Science in Biomedical Engineering Degree Curriculum A: Traditional BME

See General Education Requirements

General Education Requirements*	66
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Required Courses:

Area I: MTH 229, 230

Area V: PHY 240/200, 242/202, 244/204

Area VI: College Component: EGR 190**

*Courses taken to satisfy GE requirements may not be counted toward the major.

**For incoming freshmen only. Other students should take ISE 210.

Engineering Requirements	95
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Core Engineering Requirements:

CEG 220

EE 301/302, 321

EGR 101

ISE 301, 407

ME 212, 213

Major Courses*:

BME 195, 419, 420, 422, 428, 439, 440, 460, 461, 462, 463, 464, 470, 471, 491, 492, 402, 493, 403

Related Course Requirements	33
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BIO 112, 278, 279

CHM 121/125, 122/126

MTH 231, 235

Total	194
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*Students may substitute BME 485 for either BME 422 or BME 439.

Bachelor of Science in Biomedical Engineering Curriculum B: BME Premedical

See General Education Requirements

General Education Requirements*	66
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Required Courses

Area I: MTH 229, 230

Area V: PHY 240/200, 242/202, 244/204

Area VI: College Component: EGR 190**

*Courses taken to satisfy GE requirements may not be counted toward the major.

**For incoming freshmen only. Other students should consult a department advisor.

Additional Courses for pre-med requirements	23
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CHM 123/127, 211 and 215, 212 and 216, 213 and 217

Engineering Requirements	83
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Core Engineering Requirements:

CEG 220

EE 301/302, 321

EGR 101

ISE 301

ME 212, 213

Major Courses*

BME 195, 419, 420, 422, 428, 439, 440, 460, 461, 462, 463, 464, 491, 492, 402, 493, 403

Related Course Requirements	33
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BIO 112, 278, 279

CHM 121/125, 122/126

MTH 231, 232

Total	205
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*Students may substitute BME 470/471 for BME 422/439

Computer Engineering

Professors Bourbakis, Brandeberry (emeritus), H. Chen, Chung, Dong, Golshani (chair), Goshtasby, Jean, Rattan, Rizki, Sheth, Siferd (emeritus), Sudkamp
Associate Professors Doom, Gallagher, Mateti, Raymer, Thirunarayan, Wang B.

Assistant Professors Futamura, Liu, Pei, Wang S., Wischgoll

Lecturers Bian, Finkelstein, Matson, Meyer, Taylor

Research Assistant Professor Hartrum

Adjunct Research Associate Professor Tamburino

The Bachelor of Science degree program in computer engineering is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET). The curriculum is carefully designed to provide a modern program, balancing the study of hardware, software, theory, and practice. The program prepares students to be skillful practitioners by combining these studies with a thorough foundation in science, mathematics, and electrical and computer engineering. In addition to offering well-equipped educational laboratories, excellent faculty, and flexible programs for working professionals, the program also affords students with unique opportunities for research in the local area.

Laboratory experience in design, experimentation, observation, implementation, and discovery complement the theoretical portion of the program.

Options for specialization in Wireless Architecture and in Wireless Software are available.

Computer Engineering Program Objectives

- To produce graduates recognized by industrial, government, and academic entities as having a sound, current, and comprehensive education by providing a balanced and integrated hardware and software educational experience that is rich in modern laboratory, project, and design experiences and that emphasizes team participation, problem solving, and communication skills.
- To prepare and retain students who, upon graduation, will be motivated to pursue lifelong learning, continuing education, and graduate studies, as required by their personal development goals, through a stimulating, broad, and modern educational experience that is well grounded in the mathematical, scientific, and engineering principles.
- To instill a sense of social responsibility, a code of conduct, and ethical values appropriate to the discipline in CS and E students so that they are valuable contributors in their societal and professional environments.

Graduates of the computer engineering program are prepared to supervise, design, and implement systems employing computer hardware, software, and firmware.

**Degree Requirements—
Computer Engineering**

Bachelor of Science in Computer Engineering Degree

See General Education Requirements

General Education Requirements*	40
Required Courses	
Area I: (GE substitution. See Mathematics Requirements below)	
Area V: (GE substitution. See Science Requirements below)	
Area VI: College Component: EGR 190**	
*Courses taken to satisfy GE requirements may not be counted toward the major. Must select 4 Writing Intensive (WI) from Areas II, III, IV, and Physics.	
**For students with less than 45 credit hours. Approved substitutions for students having more than 45 credit hours: ISE 210, EES 260, EC 290, PSY 110, URS 200.	
Departmental Requirements	55
CS 240, 241, 242, 400, 415	19
CEG 233, 260, 320, 360, 402, 433, 453	28
CEG 498/499	8
Engineering Requirements	13
EE 301, 302, 321, 331, 332	13
Computer Science Electives	16
Approved Electives	16
(400-level courses from Computer Science or Computer Engineering to provide additional breadth in the discipline)	
Mathematics Requirements	29
MTH 229, 230, 231, 253, 257	21
STT 360 or STT 363 or ISE 301	3
MTH 233 or 235	5
Science Requirements	16
PHY 240/200, 242/202, 244/204	16
Mathematics and Science Electives	3
Courses must be appropriate for science or engineering majors and satisfy the General Education science requirements.	
Technical Communications	3
EGR 335	3
General Electives	16
Electives may be taken from any area of study.	
Total	191

Note: All elective courses must be approved by a department advisor.

Bachelor of Science in Computer Engineering Degree: Wireless Architecture Option

See General Education Requirements

General Education Requirements* 40**Required Courses**

Area I: (GE Substitution. See Mathematics Requirements below)

Area V: (GE Substitution. See Science Requirements below)

Area VI: College Component: EGR 190**

*Courses taken to satisfy GE requirements may not be counted toward the major. Must select 4 Writing Intensive (WI) from Areas II, III, IV and Physics.

**For students with less than 45 credit hours. Approved substitutions for students having more than 45 credit hours: ISE 210, EES 260, EC 290, PSY 110, URS 200.

Departmental Requirements	55
CS 240, 241, 242, 400, 415	19
CEG 233, 260, 320, 360, 402, 433, 453	28
CEG 498/499	8
Engineering Requirements	13
EE 301, 302, 321, 331, 332	13
Wireless Concentration Courses	20
CEG 403, 404, 436	12
EE 421, 473, 474	8
Mathematics Requirements	29
MTH 229, 230, 231, 253, 257	21
STT 360 or STT 363 or ISE 301	3
MTH 233 or 235	5
Science Requirements	16
PHY 240/200, 242/202, 244/204	16
Mathematics and Science Electives	36
Courses must be appropriate for science or engineering majors and satisfy the General Education science requirements.	3
Technical Communications	3
EGR 335	3
General Electives	12
Electives may be taken from any area of study.	12
Total	191

Note: All elective courses must be approved by a department advisor.**Bachelor of Science in Computer Engineering
Degree: Wireless Software Option****See General Education Requirements****General Education Requirements** *40**Required Courses**

Area I: (GE Substitution. See Mathematics Requirements below)

Area V: (GE Substitution. See Science Requirements below)

Area VI: College Component: EGR 190**

*Courses taken to satisfy GE requirements may not be counted toward the major. Must select 4 Writing Intensive (WI) from Areas II, III, IV and Physics.

**For students with less than 45 credit hours. Approved substitutions for students having more than 45 credit hours: ISE 210, EES 260, EC 290, PSY 110, URS 200.

Departmental Requirements	55
CS 240, 241, 242, 400, 415	19
CEG 233, 260, 320, 360, 402, 433, 453	28
CEG 498/499	8
Engineering Requirements	13
EE 301, 302, 321, 331, 332	13
Wireless Concentration Courses	20
CEG 404, 429, 436, 460	16
CS 470	4
Mathematics and Science Requirements	29
MTH 229, 230, 231, 253, 257	21
STT 360 or STT 363 or ISE 301	3
MTH 233 or 235	5
Science Requirements	16
PHY 240/200, 242/202, 244/204	16
Mathematics and Science Electives	36
Courses must be appropriate for science or engineering majors and satisfy the General Education science requirements.	3
Technical Communications	3
EGR 335	3
General Electives	12
Electives may be taken from any area of study.	12
Total	191

Note: All elective courses must be approved by a department advisor.

Computer Science

Professors Bourbakis, Chung, Dong, Golshani (chair), Goshtasby, Jean, Rizki, Sheth, Sudkamp*Associate Professors* Doom, Gallagher, Mateti, Raymer, Thirunarayan, Wang*Assistant Professors* Futamura, Hawley (WSU Lake Campus), Pei, Wischgoll*Lecturers* Bian, Finkelstein, Matson, Meyer, Taylor*Research Assistant Professor* Hartrum*Adjunct Research Associate Professor* Tamburino

The Bachelor of Science in Computer Science degree and the Bachelor of Arts in Computer Science degree are offered.

The Bachelor of Science degree program in computer science is accredited by the Computing Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET). The curriculum provides a balance of hardware, software, theory, and practice. The program prepares students to be skillful practitioners by combining these studies with a thorough foundation in science, mathematics, and computer science. The degree program allows for a second concentration in an area of bioinformatics, computational science, or business.

The Bachelor of Arts degree is designed for students interested in the application of computer technologies and their integration into organizations and society. The curriculum emphasizes information technology, data management, and web-based applications. This degree program also allows for a second concentration in the area of business.

In addition to offering well-equipped educational laboratories, excellent faculty, and flexible programs for working professionals, both degree programs afford students with unique opportunities for research in the local area.

BS in Computer Science Program Objectives

- To produce graduates recognized by industrial, government, and academic entities as having a sound, current, and comprehensive education by providing an integrated hardware and software educational experience that is rich in modern laboratory and software experiences and that emphasizes problem solving and communication skills
- To prepare and retain students who, upon graduation, will be motivated to pursue lifelong learning, continuing education, and graduate studies, as required by their personal development goals, through a stimulating, broad, and modern educational experience that is well grounded in the mathematical, scientific, and programming principles, as well as in the fundamental concepts and theory of computing.
- To instill a sense of social responsibility, a code of conduct, and ethical values appropriate to the discipline in CS and E students, so that they are valuable contributors in their societal and professional environments.

BA in Computer Science Program Objectives

- To produce graduates recognized by industrial, government, and academic entities as having a sound, current, and comprehensive education by providing an educational experience that focuses on the use of computer technology in society and that emphasizes problem solving, and communication skills.

- To prepare and retain students who, upon graduation, will be motivated to pursue lifelong learning, continuing education, and graduate studies, as required by their personal development goals, through a stimulating, broad, and modern educational experience which is well grounded in information technology, data management, programming principles, and knowledge of contemporary applications of computing.
- To instill a sense of social responsibility, a code of conduct, and ethical values appropriate to the discipline in the CS and E students, so that they are valuable contributors in their societal and professional environments.

**Degree Requirements—
Computer Science**

**Bachelor of Science in Computer Science
(Bioinformatics Option)**

See General Education Requirements

General Education Requirements*	40
Required Courses	
Area I: (GE Substitution. See Mathematics Requirement below)	
Area V: (GE Substitution. See Chemistry Requirements and Biological Sciences Requirements below)	
Area VI: College Component: Select and Area VI College of Liberal Arts Course	
*Courses taken to satisfy GE requirements may not be counted toward the major.	
Department Requirements	59
CS 240, 241, 242, 400, 405, 415, 466, 480	31
CS 271, 409, 471	12
CEG 255, 260, 320, 333, 433	16
Computer Science/Engineering Electives	8
Electives must be 400-level CS/CEG courses from the bioinformatics elective list to provide additional breadth in the discipline.	8
Mathematics Requirements	24
MTH 229, 230, 231, 253, 257	21
STT 363 or STT 360 or ISE 301	3
Chemistry Requirements	33
CHM 121/125, 122/126, 123/127	15
CHM 211, 212, 213, 215, 216, 217	18
Biology Sciences Requirements	27
BIO 111, 112, 115, 210, 211, 212, 213, 492	27

Technical Communications	3
EGR 335 or BIO 310	3
Total	194

Note: All elective courses must be approved by a department advisor.

Bachelor of Science in Computer Science (Business Option)

General Education Requirements*	36
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Required Courses

- Area I: (GE substitution. See Mathematics Requirements below)
- Area III: (GE substitution. See Business Concentration Requirements below)
- Area V: (GE substitution. See Laboratory Science Requirements below)
- Area VI: College Component: Select any Area VI College of Liberal Arts Course

*Courses taken to satisfy GE requirements may not be counted toward the major.

Department Requirements	47
CS 240, 241, 242, 400, 415	19
CS 405, 466, 480	12
CEG 233, 320, 433, 460	16
Computer Science/Engineering Electives	36
At least 16 hours must be at the 400 level. Courses from Computer Science or Computer Engineering to provide additional breadth in the discipline.	36
Mathematics Requirements	24
MTH 229, 230, 231, 253, 257	21
STT 363 or STT 360 or ISE 301	3
Laboratory Sequence Requirements	12–16
CHM 121/125, 122/126, 123/127	15
Or BIO 111, 112, 115	12
Or PHY 240/20, 242/202, 244/204	16
Or EES 251/252, 253/254, 255/256	13
Science and Mathematics Electives	5–9
Science and Mathematics Electives and the Laboratory Science Sequence must total 21 hours, to include at least 18 hours of natural science courses. Courses must be appropriate for science or engineering majors and satisfy the General Education science requirements.	
Technical Communications	3
EGR 335	3
Business Concentration Requirements	16
EC 204, 205	8
ACC 204, 205	8

Business Concentration Electives	8
Select at least two additional business courses to complement Business Concentration Requirements courses.	

Total	191
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Note: All elective courses must be approved by a department advisor.

Bachelor of Science in Computer Science (General Option)

General Education Requirements*	40
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Required Courses

- Area I: (GE substitution. See Mathematics Requirements below.)
- Area V: (GE substitution. See Laboratory Science Requirements below.)
- Area VI: College Component: Select any Area VI College of Liberal Arts course.

*Courses taken to satisfy GE requirements may not be counted toward the major.

Department Requirements	47
CS 240, 241, 242, 400, 415	19
CS 405, 466, 480	12
CEG 233, 320, 433, 460	16
Computer Science/Engineering Electives	36
At least 16 hours must be at the 400 level. Courses from Computer Science or Computer Engineering to provide additional breadth in the discipline.	36
Mathematics Requirements	24
MTH 229, 230, 231, 253, 257	21
STT 363 or STT 360 or ISE 301	3
Laboratory Sequence Requirements	12–16
CHM 121/125, 122/126, 123/127	15
Or BIO 111, 112, 115	12
Or PHY 240/20, 242/202, 244/204	16
Or EES 251/252, 253/254, 255/256	13
Science and Mathematics Electives	5–9
Science and Mathematics Electives and the Laboratory Science Sequence must total 21 hours, to include at least 18 hours of natural science courses. Courses must be appropriate for science or engineering majors and satisfy the General Education science requirements.	
Technical Communications	3
EGR 335	3
General Electives	20
Electives may be taken from any area of study.	20
Total	191

110 Engineering and Computer Science

Note: All elective courses must be approved by a department advisor.

**Bachelor of Science in Computer Science
(Computational Science Option)**

General Education Requirements* 40

Required Courses

Area I: (GE substitution. See Mathematics Requirements below.)

Area V: (GE substitution. See Laboratory Science Requirements below.)

Area VI: College Component: Select any Area VI College of Liberal Arts course.

*Courses taken to satisfy GE requirements may not be counted toward the major.

Departmental Requirements 59

CS 240, 241, 242, 400, 405, 415, 466, 480 31

CS 316, 317, 350 12

CEG 233, 320, 433, 460 16

Computer Science/Engineering Electives 36

At least 16 hours must be at the 400 level. Courses from Computer Science or Computer Engineering to provide additional breadth in the discipline. 36

Mathematics Requirements 24

MTH 229, 230, 231, 253, 257 11

STT 363 or STT 360 or ISE 301 4

Laboratory Sequence Requirements 12–16

CHM 121/125, 122/126, 123/127 15

Or BIO 111, 112, 115 12

Or PHY 240/20, 242/202, 244/204 16

Or EES 251/252, 253/254, 255/256 13

Computational Science Requirements 12–16

Select courses from science, mathematics, computer science, or computer engineering. There must be a total of at least 28 hours in Laboratory Sequence Requirements and Computational Science Electives. This total must include at least 18 hours of natural science courses. Courses must be chosen to ensure a minimum of 45 hours in mathematics or science courses.

Technical Communications 3

EGR 335 3

Total 190

Note: All elective courses must be approved by a department advisor.

Bachelor of Arts in Computer Science

General Education Requirements * 52

Required Courses

Area I: (GE Substitution. See Quantitative Reasoning Requirements below)

Area VI: College Component: Select any Area VI College of Liberal Arts Course

*Courses taken to satisfy GE requirements may not be counted toward the major.

Department Requirements 43

CS 240, 241, 242, 302, 400, 415, 466 27

CEG 233, 320, 355, 460 16

Computer Science/Engineering Electives 32

At least 16 hours must be at the 400 level. Courses from Computer Science or Computer Engineering to provide additional breadth in the discipline.

Quantitative Reasoning Requirements 17

MTH 228, 257 8

STT 160 5

PHL 223 4

Technical Communications 3

EGR 335 3

General Electives 40

Must include at least two courses from COM 101, 203, 221, or PHL 124, 200, 211.

Total 187

Note: All elective courses must be approved by a department advisor.

**Bachelor of Arts in Computer Science:
Business Option**

General Education Requirements * 48

Required Courses

Area I: (GE Substitution. See Quantitative Reasoning Requirements below)

Area III: (GE Substitution. See Business Concentration Requirements below)

Area VI: College Component: Select any Area VI College of Liberal Arts Course

*Courses taken to satisfy GE requirements may not be counted toward the major.

Department Requirements 43

CS 240, 241, 242, 302, 400, 415, 466 27

CEG 233, 320, 355, 460 16

Computer Science/Engineering Electives 32

At least 16 hours must be at the 400 level. Courses from Computer Science or Computer Engineering to provide additional breadth in the discipline.

Quantitative Reasoning Requirements	17
MTH 228, 257	8
STT 160	5
PHL 223	4
Technical Communications	3
EGR 335	3
Business Concentration Requirements	16
EC 204, 205	8
ACC 204, 205	8
Business Concentration Electives	8
Select at least two additional business courses to complement Business Concentration Requirements courses.	
General Electives	20
Must include at least two courses from COM 101, 203, 221, or PHL 124, 200, 211.	
Total	187

Note: All elective courses must be approved by a department advisor.

Minor in Computer Science for Engineers and Scientists

Students who successfully complete the courses for the computer science focus area and meet additional departmental requirements will receive a minor in computer science for engineers and scientists. Interested students should apply to be admitted to the minor once they are established in the industrial and systems engineering major and have achieved junior status.

Minor Requirements	23
<i>Required Courses</i>	19
CS 240 or CEG 220	
CS 241, 242, 400, MTH 257	
<i>Elective Courses</i>	4
CS 405 or CEG 433 or CEG 460	

Minor in Computing and Information Technology (CIT)

The objective of the CIT minor is to satisfy the need for the intelligent and responsible application of computing and information technologies to majors in fields that do not have computer science or computer engineering as their fundamental and exclusive basic orientation but will benefit from the products of applications of the latter two disciplines and their proper use. The minor provides a conceptual foundation as well as a practical application of various computing and information technology skills. At present, this minor is intended to serve the Department of Accountancy.

Minor Requirements	28
<i>Computer Literacy</i>	4
CS 205	
<i>Introductory Programming</i>	8
CS 141, 142 or CS 208, 209 or CS 240, 241	
<i>Object-Oriented Programming</i>	4
CS 214 or CS 242	
<i>PC Networking</i>	4
CEG 210	
<i>Client-Server Databases</i>	4
CS 302	
<i>Elective</i>	4
CS 206 or CEG 211	

Certificate in Object-Oriented Programming

The objective of this certificate is to provide an undergraduate experience in object-oriented programming fundamentals for practitioners of programming in other more classical methodologies and practices. It is assumed that students pursuing this certificate will have at least three years of industrial experience in the programming field and a baccalaureate degree.

Certificate Requirements	21
CS 241 or CEG 330	4
CEG 255	4
CS 214, 242, 340, 400	13

Electrical Engineering

Professors Brandeberry (emeritus), Chen, Hong, Kazimierczuk, Rattan, Shaw, Siferd (emeritus)

Associate Professors Emmert, Garber (chair), Hannen (emeritus), Misra, Xue

Assistant Professors Chu, J. Doom, Gallagher, Rigling, Wu, Zhang, Zhauang

The Department of Electrical Engineering offers programs leading to the Bachelor of Science in Electrical Engineering (B.S.E.E.) degree and the Bachelor of Science in Engineering Physics (B.S.E.P.) degree. These two engineering programs are accredited by the Accreditation Board for Engineering and Technology (ABET).

Electrical Engineering

Electrical Engineering is the problem-solving foundation of our technological society. That's because anything involving the movement of electrons falls within the province of electrical engineering. Electrical engineers create, design, build, and improve everyday necessities we now take for granted—from computers to cell phones; from DVD players to digital control systems in modern automobiles; from arrays of sensors and signal and image processors to space-based communications; and from advanced manufacturing robots to hybrid electric cars. Electrical engineers also design, test, and fabricate the integrated circuit chips that make virtually all these devices possible.

The Department of Electrical Engineering offers students a number of programs leading to a variety of degrees geared to a wide range of interests and career needs. Fully ABET-accredited Bachelor of Science degrees are offered in the core discipline of electrical engineering and in the more specialized area of engineering physics. Two graduate degrees are also available: a Master of Science in Engineering with a major in electrical engineering, and a unique interdisciplinary Doctor of Philosophy degree in Engineering.

Electrical Engineering Program Objectives

- To prepare students for employment as electrical engineers.
- To prepare students for success in graduate studies.
- To prepare students to solve real-world engineering problems using modern electrical engineering analysis and design techniques.
- To offer a curriculum and schedule of classes so that both traditional and part-time working students can complete degree requirements.
- To offer a program that is recognized for the quality and strength of the laboratory component.

Required courses in electronic circuits, control theory, communication theory, and electromagnetic theory give the student an overview of the electrical engineering discipline. At least one elective design sequence—in either control systems, electronic systems, communication systems, electromagnetic systems, or other as approved by an advisor—is required to provide strength and depth for each graduate. For example, two required courses in electronic circuits lead to a four-course elective sequence, culminating in a VLSI (very large scale integrated) circuit design project. Similarly, the required course in control theory leads to analog and digital controller design courses. In the capstone course, students design and test control circuits.

Degree Requirements—Electrical Engineering

Bachelor of Science in Electrical Engineering Degree

See General Education Requirements

General Education Requirements*	66
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Required Courses

Area I: MTH 229, 230
Area V: PHY 240/200, 242/202, 244/204
Area VI: College component: EGR 190**

*Courses taken to satisfy GE requirements may not be counted towards the major.

**For incoming freshmen only. Other students should consult a department advisor.

Engineering Requirements	64
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ME 212, 213; CEG 221*, 411; EGR 101	21
EE 140, 260, 301/302, 303/304, 321, 323	24
EE 325, 331/332, 345, 413/414, 421, 431/432	24

Related Course Requirements	64
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CEG 220	4
MYH 231, 232, 235	18
STT 363 or ISE 301, CHM 121, EGR 335	11
Technical Elective†	7
Engineering Electives††	26

Design Sequence I—Electronic Systems	18
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EE 444 or 449, 451, 481, 482

Design Sequence II—Control Systems	14
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EE 415/416, 417/420, 481, 482

Design Sequence III—Communication/Signal Processing	14
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EE 435, 436, 481, 482

Design Sequence IV—Electromagnetics	14
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EE 346, 446, 481, 482

Total	198
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*ME 315 may be substituted for CEG 221.

†The Technical Elective course is to be selected from courses numbered 200 and above in the College of Engineering and Computer Science, the College of Science and Mathematics, or the Raj Sooin College of Business, and approved by the advisor. Redundant courses, such as MTH 228, MS 201, MS 202, CS 205, CS 206 and co-listed courses, may not be used as the Technical Elective course.

††Engineering elective courses (26 credit hours required). Students must select one of the four design sequences listed above as part of their engineering electives. The remaining electives must be selected from courses numbered 300 or

above in the College of Engineering and Computer Science and approved by the advisor. At least 20 of the 26 credit hours must be from electrical engineering courses. Students desiring to complement electrical engineering skills with an increased emphasis on computer science may choose a minor in computer science for engineers and scientists. Those choosing the computer science minor will substitute CS 240 and CS 241 for CEG 220 and CEG 221. This minor is focused on programming theory, C and C++ languages, data structures, and an application area chosen from operating systems, software engineering, or database management systems.

Engineering Physics

Engineering physics is an interdisciplinary program offered jointly by the Department of Electrical Engineering and the Department of Physics. This program emphasizes engineering science and basic physics as applied to the design of processes, systems, and devices. The program is designed to prepare students for employment in engineering with emphasis on research and development; to do graduate study in either physics or engineering; and to use modern engineering, scientific analysis, and design techniques. The engineering physicist is typically a link between laboratory scientists and production engineers.

The curriculum contains a core of practical mathematics and computer usage, as well as basic science and engineering science to prepare the student for graduate work. Additional courses in solid state, lasers, electro-optics, transducer instrumentation, and signal communication provide excellent background for industrial or governmental research and development (RandD) work. Opportunities for graduates include laser systems development, detector systems development, device design, computer chip design, materials development, detector systems development, avionics, aerospace engineering, superconductivity, environmental science, and management.

A final design project is required of all students, providing unmatched experience for work in research and development. The favorable faculty-to-student ratio in this program allows students to pursue independent design projects under faculty supervision, frequently utilizing industry or governmental laboratories. These hands-on projects give students experience, better equipping them for employment in today's competitive job market.

Engineering Physics Program Objectives

1. To prepare students for employment in the engineering profession, with an emphasis on research and development.

2. To prepare students for success in graduate studies.
3. To prepare students to solve real world engineering problems using modern engineering analysis and design techniques.
4. To offer a curriculum emphasizing physical science, in order to produce engineering physicists capable of combining theory with analysis and design to solve practical engineering problems.

Degree Requirements— Engineering Physics

Bachelor of Science in Engineering Physics Degree

See General Education Requirements

General Education Requirements*	66
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Required Substitutions

Area I: MTH 229, 230

Area V: PHY 240/200, 242/202, 244/204

Area VI: College Component: EGR 190**

*Courses taken to satisfy GE requirements may not counted toward the major

**For incoming freshmen only. Other students should consult a department advisor.

Engineering Requirements	46
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EGR 101	5
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EE 301/302, 303/304, 321, 322, 331/332	21
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EE 413/414, 415/416, 421	12
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EP 494	8
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Physics Requirements	30
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PHY 260, 316, 371, 372, 420, 450, 451, 452, 461

(ME 315 may be substituted for PHY 420)

Related Course Requirements	29
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CHM 121/125, 122/126	10
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CEG 220 or CS 240	4
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MTH 231, 232, 235	15
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Technical Electives**	28
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**Technical Elective courses are to be selected from those numbered 200 and above in either the College of Engineering and Computer Science, the College of Science and Mathematics, or the Raj Sooin College of Business, and approved by the advisor. Redundant courses such as MTH 228, MS 201, MS 202 and co-listed courses may not be used as Technical Elective courses.

Total (minimum)

197

Industrial and Systems Engineering

Professors Gallimore, Hill, Narayanan (Chair), Phillips

Associate Professor Ciarallo

Assistant Professors Gripper, Liu, Zhang

Lecturer Kender

The Department of Biomedical, Industrial and Human Factors Engineering offers an undergraduate program in industrial and systems engineering leading to the Bachelor of Science in Industrial and Systems Engineering. The Industrial and Systems Engineering program is accredited by the Accreditation Board for Engineering and Technology (ABET). The Industrial and Systems Engineering program emphasizes the evaluation, design, and improvement of complex systems. The program recognizes the central role of people in such systems, as both operators and beneficiaries, and provides the breadth of knowledge necessary to design systems from a user centered perspective. The curriculum provides a broad basis in mathematics, science, and engineering including core courses in industrial engineering, operations research, manufacturing, and the human aspects of system design. Students take a variety of courses across traditional engineering disciplines as well as other areas, depending on a chosen focus area of concentration. Core industrial engineering topics include probability and statistics, ergonomics, system design, optimization, simulation, production systems, engineering economics, and software development.

Industrial and Systems Engineering Program Objectives

- Graduates are expected to utilize their knowledge and problem-solving skills to design, develop, implement and improve integrated systems that include people, materials, information, equipment and energy.
- Graduates are expected to apply their math, science and engineering skills in professional practice.
- Graduates are expected to apply user-centered design methodologies in the development of integrated systems.
- Graduates are expected to work productively in a team environment and communicate effectively, both written and orally.
- Graduates are expected to have an understanding of their role as engineers in the context of a global society.

- Graduates are expected to succeed in professional practice and/or graduate school.

The Industrial and Systems Engineering program emphasizes a broad background in user-centered design within an industrial and systems engineering framework. Students must choose electives within a focus area of application, in consultation with an advisor. The focus area often leads to employment or advanced studies in the area chosen. Currently there are five approved focus areas in industrial and systems engineering: Human Integrated Systems, Ergonomic Systems, Computer Science, Materials Science and Engineering, and Operations Management. Students may also elect to pursue an honors thesis. In the capstone course, students work in teams with a client from industry to identify and solve a real real-world design problem.

Graduates of the program pursue careers in a wide range of settings including: manufacturing, health care delivery, information systems, aerospace, consulting, and telecommunications. In addition, students may choose to continue their education in graduate school.

Degree Requirements—Industrial and Systems Engineering

Bachelor of Science in Industrial and Systems Engineering Degree

See General Education Requirements

General Education Requirements* 66

Required Substitutions

Area I: MTH 229, 230

Area V: PHY 240/200, 242/202, 244/204

Area VI: College Component: EGR 190**

*Courses taken to satisfy GE requirements may not be counted toward the major.

**For incoming freshmen only. Other students should take ISE 210.

Engineering Requirements 98

Core Engineering Requirements:

EGR 101

BME 428

CEG 220

EE 301/302, 321

ME 212, 213, 315

Major Courses

ISE 195, 301, 302, 406, 407, 451, 470, 471, 472, 473, 474, 477, 478, 481, 482, 483, 484

Related Course Requirements	20
CHM 121/125	
MTH 231, 232, 235	
Technical Communications Requirement	3
EGR 335	
Elective/Concentration Requirement	8
ISE Honors Undergraduate Thesis:	
ISE 499-9 and 499-10	
Human Integrated Systems:	
Select two: ISE 431, ISE 465 and PHY 110	
*Operations Management:	
MS 307 and MS 320	
Ergonomic Systems:	
ISE 480 and ISE 485	
**Computer Science:	
Select two: ISE 465, CS 240 and 241	
***Materials Science and Engineering	
Select two: ME 220, 370, 371, 472	
Total (minimum)	195

*Minor in Operations Management available. See Raj Soin College of Business section for additional requirements and details.

**Minor in Computer Science for Engineers and Scientists available. See computer science department section for requirements and details.

***Minor in Materials Science and Engineering available. See Mechanical Engineering department section for additional requirements and details.

Minor in Operations Management

Students who successfully complete the courses for the operations management focus area and meet additional departmental requirements will receive a minor in operations management from the Raj Soin College of Business. Interested students should apply to be admitted to the minor once they are established in the industrial and systems engineering major and have achieved junior status. Students must be enrolled in the minor in order to be permitted to sign up for courses in the operations management track.

Certificate in Innovation and Entrepreneurship in High Technology

The purpose of this certificate program is to enhance the technical expertise and business acumen of undergraduate students, regardless of professional pursuit. Upon completion of this program, graduates will be knowledgeable about the technical processes that drive innovation and will possess the business skills required of entrepreneurs.

Certificate Requirements	23
ISE 481, 490	8
MKT 475	4
MGT 499	4
ISE 405 (seminars)	3
ISE 499 (team project)	4

Honors Thesis

The honors thesis provides talented, highly motivated students the opportunity to develop their interests and professional skills by pursuing carefully structured programs of independent study and research, which culminates in completion of the undergraduate honors thesis.

Mechanical and Materials Engineering

Professors Dadras (emeritus), Grandhi, Hankey (emeritus), Mukhopadhyay, R. Srinivasan, J. Thomas, Wolff

Associate Professors Amer, Bethke (chair), Cornelius, Klingbeil, Lieh, Menart, Slater, S. Thomas

Assistant Professors Friar (emeritus), Penmetsa, Young

The Department of Mechanical and Materials Engineering offers undergraduate programs in mechanical engineering, and materials science and engineering. Both programs are accredited by the Accreditation Board for Engineering and Technology (ABET). These programs cover traditional engineering fundamentals and develop the skills for modern engineering analysis and design. Laboratory and computer experience are integrated throughout the curriculum. Most required courses are offered in both day and evening sections at least once a year.

Mechanical Engineering

Mechanical engineering is a modern, creative discipline encompassing a wide variety of technical activities. The field is changing rapidly with the progress of the computer era, but the key element that links all of the activities within mechanical engineering is design. The design function is now largely computer-based and involves modeling, simulation, analysis, and synthesis.

Historically, mechanical engineering includes two principal stems. One stem concerns heat, fluids, and energy. Engineers who study combustion in a turbine engine or aircraft lift and drag are practicing in this area. The other stem concerns force and

motion in mechanical systems. Problems here include determining robot trajectories, analyzing vibrations to minimize noise, or predicting the stresses in a rotating disc.

The curriculum includes advanced course work in mechanics, thermal sciences, fluids, materials, electronics, mechanical systems, and design.

Mechanical Engineering Program Objectives

- Mechanical engineering graduates will possess the necessary skills to successfully enter the engineering profession or to pursue graduate study, and will appreciate the benefits of lifelong learning.
- Mechanical engineering graduates will demonstrate a solid foundation in mathematics, basic and engineering sciences, computer application, laboratory techniques, and their use in solving mechanical engineering problems.
- Mechanical engineering graduates will demonstrate a breadth of experience in engineering design.
- Mechanical engineering graduates will demonstrate strong communication skills and the ability to work in collaborative groups in a professional and ethical fashion.

Degree Requirements - Mechanical Engineering

Bachelor of Science in Mechanical Engineering Degree

General Education Requirements*	66
Required Courses	
Area I: MTH 229, 230	
Area V: PHY 240/200, 242/202, 244/204	
Area VI: College Component: EGR 190**	

*Courses taken to satisfy GE requirements may not be counted toward the major.

**For incoming freshmen only. Other students should consult a department advisor.

Engineering Requirements	95
EGR 101, 153, ME 199	12
ME 202, 212, 213	12
ME 313, 314, 315, 316, 317, 318, 360, 370, 371	35
ME 408, 412, 414, 415, 460, 490, 491	27
ME 495, 496, 497 (select any two)	4
EE 301/302, 413/414	9
Related Course Requirements	27
CHM 121/125	5
MTH 231, 232, 235	15
STT 363	3

CS 316	4
Technical Electives***	10

These courses to be selected from an approved list

Total	202
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***Technical Electives are listed on the mechanical engineering program guide available in the department office.

Materials Science and Engineering

Materials science and engineering has evolved over the last 25 years from metallurgical engineering, polymer chemistry, and ceramic science. It is increasingly recognized as a key engineering field that opens the door for new developments in other advanced technologies. Over the past several decades, scientists and engineers have successfully developed radically new materials. Examples include lightweight alloys for structural use, composites of high-strength fibers in ductile matrices, semiconductors for electronic devices, and, more recently, high-temperature semiconductors. These advances typify the challenge faced by materials engineers-to select, modify, or develop the right materials for new applications and technologies.

The curriculum includes advanced course work in engineering mechanics, materials science, ceramics, metallurgy, polymer science, electric circuits, materials testing, processing, and design.

Materials Science and Engineering Program Objectives

- Materials Science and Engineering graduates will possess the necessary skills to successfully enter the engineering profession or to pursue graduate study and will appreciate the benefits of lifelong learning.
- Materials Science and Engineering graduates will possess a solid foundation in mathematics, basic and engineering sciences, and laboratory techniques and their application to the field of materials.
- Materials Science and Engineering graduates will demonstrate a breadth of understanding in the relationships among processing, microstructure, properties, and performance of different materials systems.
- Materials Science and Engineering graduates will demonstrate strong communication skills and the ability to work in collaborative groups in a professional and ethical fashion.

Degree Requirements—Materials Science and Engineering

Bachelor of Science in Materials Science and Engineering Degree

General Education Requirements* 66

Required Courses

Area I: MTH 229, 230

Area V: PHY 25/200, 242/202, 244/204

Area VI: College Component: EGR 190**

*Courses taken to satisfy GE requirements may not be counted toward the major

**For incoming freshmen only. Other students should consult a department advisor.

Engineering Requirements 97

EGR 101, 153, ME 199 12

ME 202, 212, 213 12

ME 313, 314, 315, 370, 371, 375, 376 26

ME 470, 472, 477, 479, 480, 483, 492, 493 30

ME 485, 486, 487, 488, 489 (select any two) 8

ME 496, 497 4

EE 301, 302 5

Related Courses Requirements 20

CHM 121/125 5

MTH 231, 232, 235 15

Technical Electives*** 14

These courses to be selected from an approved list

Total 197

***Technical Electives are listed on the materials science and engineering program guide available in the department office.

Minor in Materials Science and Engineering

Students who successfully complete the courses for the materials science and engineering focus area and meet additional departmental requirements will receive a minor in materials science and engineering. Interested students should apply to be admitted to the minor once they are established in the mechanical engineering major and have achieved junior status.

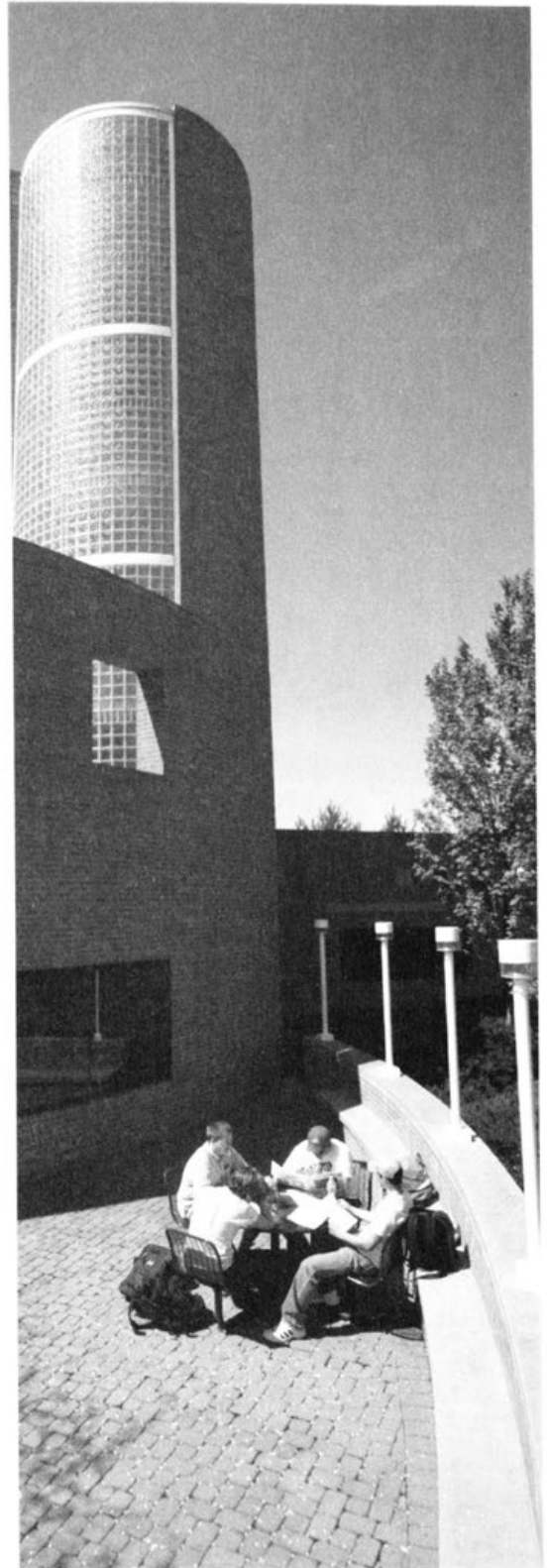
Core Requirements 30

ME 313, 370, 371, 375, 376, 472, 477, 483

Elective Courses 6

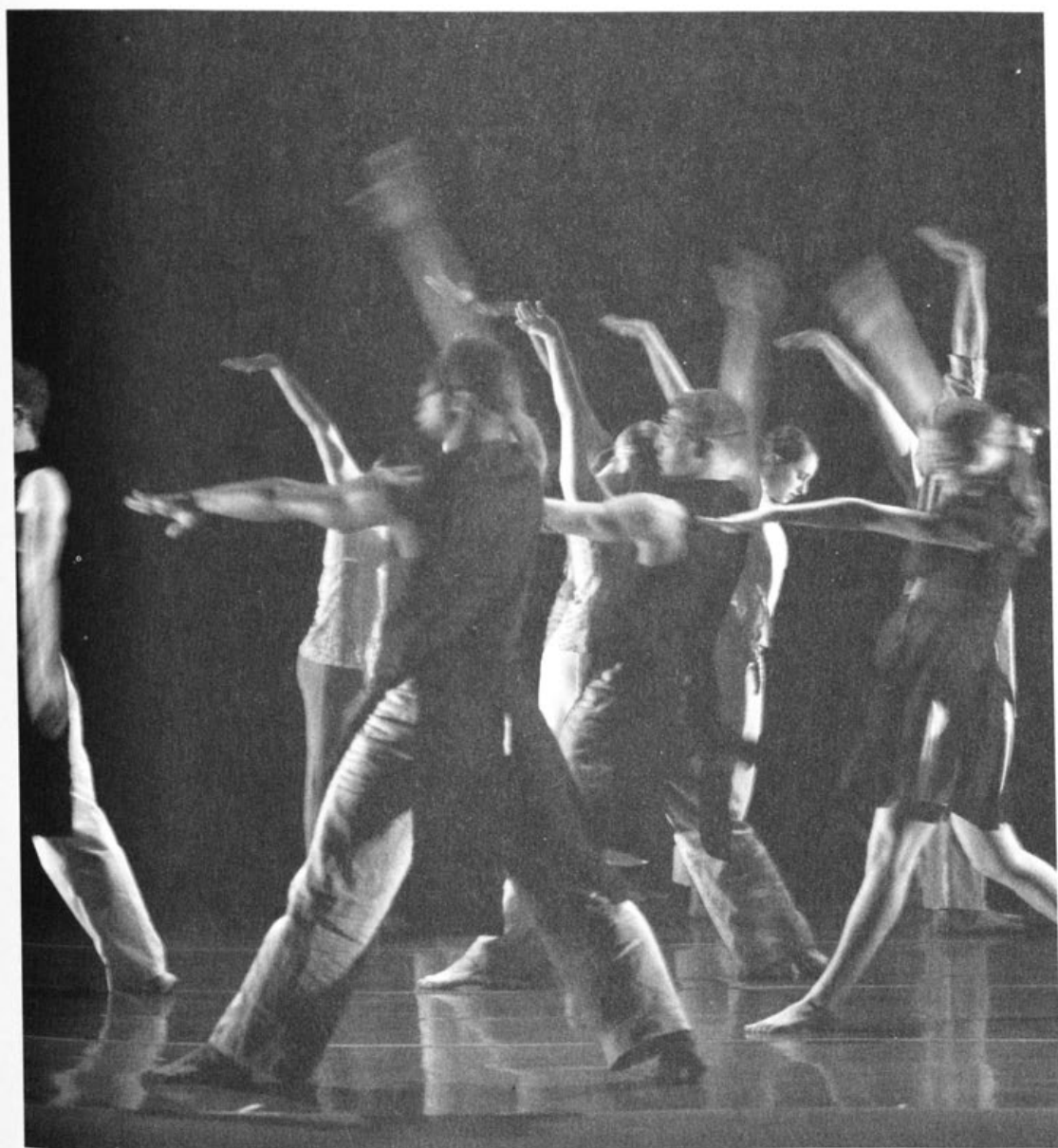
To be selected from an approved list available in the department office, 209 Russ Center

Total 36





LIBERAL ARTS



Dean Charles S. Taylor

Associate Dean Sharon H. Nelson

Assistant Dean Roberta Boyd

Assistant Dean Beth A. Klaisner

Department/Chair

Art and Art History Linda Caron

Classics David L. Barr

Communication James E. Sayer

Economics Fall Ainina (interim)

English Language and Literatures Henry S. Limouze

History Edward Haas

Modern Languages David Lee Garrison

Music Herbert Dregalla, Jr.

Philosophy David L. Barr

Political Science Donna Schlagheck

Religion David L. Barr

Social Work Carl F. Brun

Sociology and Anthropology Robert V. Riordan

Theatre Arts W. Stuart McDowell

Urban Affairs and Geography Jack Dustin

Program Director/Coordinator

African and African American Studies Paul R. Griffin

Criminal Justice Tracey Steele

International Studies December Green

Liberal Studies Mark Sirkin

Selected Studies Sharon H. Nelson

Social Science Education Carol M. Herringer

Women's Studies Kelli Zaytoun

The College of Liberal Arts offers a wide variety of degree programs in the fine arts, the humanities, and the social sciences. The college also helps prepare students for professional and graduate study and cooperates with other colleges in offering joint professional and preprofessional programs. The college contributes the largest number of courses to the university's General Education Program, providing students with much of the knowledge that is at the heart of a broad liberal education, as well as many of the skills and habits of mind that are the mark of an educated person.

The college offers four undergraduate degrees: the Bachelor of Arts, the Bachelor of Fine Arts, the Bachelor of Science, and the Bachelor of Music. The college also offers master's degree programs in applied behavioral science, English, history, humanities, international and comparative politics, and music.

Admissions and Advising

B.A. and B.S. Programs

To enter a B.A. or B.S. program in the College of Liberal Arts, students must have a minimum cumulative GPA of at least a 2.0 and a minimum of 24 credit hours completed, including ENG 101 and 102 (with a grade of C or better in both), plus three other General Education courses from Areas II, III, or IV.

In addition, students must be accepted into a major program. Some programs have additional, more stringent admission requirements.

B.F.A. Programs

Students may enter the college's B.F.A. programs with a minimum of 24 credit hours. In addition to general university requirements, many of these programs also require auditions, interviews, or portfolio reviews.

B.M. Programs

Students enter the college's B.M. program as freshmen and must successfully complete an audition in a major performance area.

Returning Students

Students who return to Wright State after an absence of four or more quarters must reapply for admission and satisfy the admission requirements listed above. Students who return after eight or more quarters' absence will have to complete the program requirements that are in effect when they are readmitted to the college.

Advising

Students majoring in liberal arts degree programs receive advising from the Liberal Arts Office of Academic Affairs and from a major advisor. The Liberal Arts Office of Academic Affairs is responsible for university and college requirements; the major advisor is responsible for program requirements. The Liberal Arts Office of Academic Affairs reviews and approves degree audits, which chart a student's progress toward the bachelor's degree. Students should consult their major advisor frequently, but especially when they enter a program and when they achieve senior status.

Degrees and Areas of Study

The Bachelor of Arts

The Bachelor of Arts degree provides the broadest educational program. Building on the General Education Program, it requires study of a foreign language and research methods, combined with concentrated study in a single major area. Elective courses give students a chance to explore subjects of personal interest or to take courses that improve their employment prospects. Liberal Arts programs are also excellent preprofessional training for law, medicine, and business, and all of them provide preparation for students interested in pursuing graduate study. These majors prepare students for careers in fields such as communication, foreign service, government, journalism, teaching, writing and editing, and social work.

Programs leading to the B.A. degree are offered in African and African American studies, anthropology, art, art history, classical humanities, communication studies, criminal justice, economics, English, French, geography, German, Greek, history, integrated language arts, international studies, Latin, mass communication, modern languages, motion picture history, theory and criticism, music, organizational communication, philosophy, political science, religion, selected studies, social science education, social work, sociology, Spanish, theatre studies, urban affairs, and women's studies.

The Bachelor of Science

As an option to the B.A., the Bachelor of Science degree stresses training in mathematics, statistics, and computer skills. There is no foreign language requirement. The College of Liberal Arts offers the B.S. degree only in geography and urban affairs.

The Bachelor of Fine Arts

The Bachelor of Fine Arts degree offers intensive, specialized training designed to prepare students for a professional career in the fine and performing arts with a special emphasis on performance and studio work. The B.F.A. is offered by the Department of Art and Art History, as well as by the Department of Theatre, Dance, and Motion Pictures which offers programs in dance, motion picture production, acting, acting-musical theatre, and design/technology/stage management. The B.F.A. degree is also available through the Selected Studies Program.

The Bachelor of Music

The Bachelor of Music degree is designed to provide professional training in music. It is a concentrated program offering specializations in performance, music education, and music history and literature.

Interdisciplinary Study

The College of Liberal Arts offers interdisciplinary majors in African and African American studies, criminal justice, international studies, liberal studies, selected studies, social science education, and urban affairs. Interdisciplinary courses are offered by a variety of departments.

Graduation Requirements

All students must complete the program requirements of the major to which they have been admitted. In addition, to be eligible for a bachelor's degree from the College of Liberal Arts, students must

1. fulfill the university General Education requirements.
2. complete the residency requirement of 45 credit hours at Wright State. At least 15 of the last 45 hours for the degree must be taken in residence.
3. complete at least 192 credit hours with at least a 2.0 cumulative GPA. No more than eight hours of physical education courses apply toward a degree.
4. complete at least 100 credit hours of work within the college.
5. complete at least 60 credit hours in upper division courses (those numbered 300 and above). At least 30 of these must be taken at Wright State.
6. complete the required writing intensive course components, both in General Education and the major.

General Education: College Component Requirement for Liberal Arts Majors

Students who transfer to the College of Liberal Arts (COLA) from a different college within Wright State University must satisfy the General Education College Component requirement (Area VI) by taking a course from the list of classes approved by the College of Liberal Arts. Area VI classes offered in other colleges will not meet this requirement. Most students already in the College of Liberal Arts who switch to another major within the college may take any COLA College Component course to meet

the Area VI requirement. Exceptions to this policy include the following:

- Students majoring in the Department of Music must take CST 242.
- Students majoring in theatre studies, acting, acting-musical theatre, or design/technology/stage management must take TH 250.
- Students completing the B.A. in economics must take EC 290.
- Students majoring in Social Work must take SW272.

Additional Requirements for the B.A. Degree

Foreign Language and Research Methods

Students working toward the B.A. degree must complete a block of courses in foreign language and in research methods.

Foreign Language. Students must demonstrate proficiency in a foreign language at the 202 level or American Sign Language at the 230 level, either by satisfactorily completing course work or by taking an examination. For proficiency exams in French, German, and Spanish, consult the Department of Modern Languages. For proficiency exams in Greek or Latin, consult the Department of Classics. Those interested in American Sign Language should contact the Department of Human Services in the College of Education and Human Services. Other languages are acceptable, subject to approval by the Liberal Arts Office of Academic Affairs. Students who are continuing a language that they began studying elsewhere need to be placed at the appropriate level. For placement in French, German, and Spanish, contact the Department of Modern Languages. For placement in Greek and Latin, contact the Department of Classics.

Research Methods. Students must complete a block of three courses in research methods, one each in computers, logic, and statistics and quantitative methods. For details, consult the Liberal Arts Office of Academic Affairs or a major advisor.

Maximum Credit Hours in Major

Except in unusual circumstances, students completing the B.A. or B.S. degree may count no more than 68 hours of courses in their major department toward the 192 hours required for graduation. Exceptions must have the prior approval of the dean of the college or of the college petitions committee.

Minors

A minor program provides students with a structured concentration of study in a second area of specialization; the minor work is noted on students' permanent university records. A minor typically requires about half the hours required in a major program. Minors are available in African and African American studies, anthropology, classical humanities, communication, art history, criminal justice, economics, English, French, geography, German, history, international studies, music, philosophy, political science, religion, sociology, Spanish, TESOL, urban affairs, and women's studies. Minors are described in the department program sections of this catalog. For more information, contact the appropriate department office.

Students who wish to combine the breadth of a major in the College of Liberal Arts with a general foundation of business courses may use their elective hours to earn a business minor. This program consists of a core of courses that satisfies most of the course prerequisites for the Master of Business Administration program at Wright State.

Certificate Programs

The college also provides a number of certificate programs: American Humanics Nonprofit, Cartography, Comparative Development, Photogrammetry and Remote Sensing, Gerontology, Museum Studies, Archive Administration and Records Management, Teaching English as a Foreign Language (TEFL), Teaching of English to Speakers of Other Languages (TESOL), Technical and Professional Writing, and Women's Studies.

Honors Program

Seniors can earn honors at graduation by participating in a departmental honors program. Designed for students capable of superior work, honors programs are available in anthropology, art history, classics, communication, English, geography, history, modern languages, motion pictures, music, philosophy, political science, religion, social work, sociology, urban affairs, and women's studies. Honors programs usually involve intensive independent study under the direction of a faculty mentor over a period of two or three quarters. For more details, contact the appropriate department office.

Cooperative Education Program

A number of departments in the College of Liberal Arts offer students an opportunity to earn academic credit for relevant work experience

through the cooperative education program. Co-op students can apply classroom learning in work settings, explore potential career fields, and gain practical experience that improves employment prospects after graduation.

A maximum of 16 hours of cooperative education credit can be counted toward a bachelor's degree. For more information, contact the departments of art, communication, economics, English, geography, history, political science, social work, sociology/anthropology, and theatre, or the Women's Studies Program. A cooperative education advisor in the Career Services office can provide more details.

Teacher Licensure

The College of Liberal Arts offers several degrees that prepare students interested in achieving an Ohio teaching license. Bachelor of Arts degrees that prepare students for a graduate licensure program are available in integrated language arts/English education, social science education, French, and Spanish. The Bachelor of Fine Arts degree is available for students seeking graduate licensure in art education. In addition, completion of the requirements for the Bachelor of Music degree in Music Education will lead toward a teaching license.

Students interested in licensure programs must be advised by a major advisor in the College of Liberal Arts. Before applying to a graduate licensure program, students should schedule a conference with an education advisor to review program admission and degree requirements.

Student Organizations

Within the college, departments sponsor a wide variety of student clubs and honor societies. Involvement in these organizations allows students to develop closer ties with the faculty and other students in the same major. In addition, it gives students the opportunity to join professional organizations, gain career information, and participate in professional and social activities. Interested students should contact departmental faculty for details.

African and African American Studies

Program Director Paul R. Griffin

African and African American Studies (AFS) is an interdisciplinary program that provides students with the opportunity to explore the heritage and contributions of Africans and African Americans to world civilizations and cultures. Students within this major will (1) develop effective critical thinking and communication skills; (2) explore teaching and research interests in African and African American experiences in Africa, the United States, and throughout the African Diaspora (the spread of people of African descent throughout the world); and (3) participate in related applied and practical experiences beyond the classroom through a service learning internship.

Students who wish to engage in more concentrated study within the major are able to design an appropriate course of study through directed readings, and independent study with the permission of the program director and a professor in the program.

Students seeking admission to the major must possess an overall GPA of at least a 2.0. To graduate with a degree in African and African American studies, students must complete—in addition to university and college requirements—a total of 64 credit hours of department requirements and must maintain a grade of C or higher in all AFS classes. At least 30 credit hours in the major must be at the 300 level or above.

Degree Requirements—African and African American Studies

See General Education Requirements

General Education Requirements 56

Required Course:

Area VI: Any approved Liberal Arts College

Component course

Departmental Requirements 59

AFS 200, 300, 400, 401*, 402, 403; ATH 447; COM 104; EC 326, 330; ENG 205; HST 214, 215, 475; PLS 451; REL 435

* The senior research project is completed over two quarters, 2.0 each quarter for a total of 4.0.

Foreign Languages and Research Methods Requirements	24–32
Electives	45–53
Total	192

African and African American Studies Minor

The African and African American studies minor offers students an opportunity to bring a scholar’s mind to the study of Africa and the African Diaspora. An interdisciplinary curriculum enables students to gain a diverse perspective about African and African American cultures.

The minor complements all of Wright State’s undergraduate majors. It also facilitates the development of a global view that is essential for living in an increasingly multicultural society. The minor particularly promotes an understanding of African and African American humanity, heritage, and contributions to world civilization.

Requirements for the minor can be fulfilled by selecting from course offerings in anthropology, art, economics, history, English and literature, music, political science, religion, social work, sociology, and theatre. A minimum of 23 hours is required, generally consisting of six courses from three areas: humanities (two or three courses), social sciences (two or three courses), and fine arts (from one to three courses). Students must have a minimum 2.0 GPA to enter the program and must receive a grade of C or above in all course work taken toward the minor.

Anthropology

See Sociology and Anthropology

Art and Art History

Professors Caron (chair), Geibert, Macaulay
Associate Professors Cebulash, Fitch, Koerlin (Emeritus), Leach (Emeritus), McDowell (Emeritus), Must (Emeritus), Nathanson, Park, Vito
Assistant Professors Morrisette, Montague, Swindler

The Department of Art and Art History offers programs leading to the Bachelor of Arts and the Bachelor of Fine Arts degrees, with courses in art education, art history, drawing, painting, photography, printmaking, and sculpture. The B.A.

degree is designed for students who wish to combine a liberal education with specific studies in art. The B.F.A. degree is designed for students who want to pursue a more intense professional studio program. The department also offers a minor in art history and B.F.A. degrees that allow students to receive a certificate in graphic design or interior design after completing a series of courses at Sinclair Community College.

Because self-expression and self-learning are the ultimate goals of the program, students are largely responsible for determining the options that best meet their individual needs and interests. Candidates for a degree in art may prepare for graduate study, careers in teaching, or the professional practice of art.

In the studio area, studies begin with introductory courses in drawing, sculpture, and photography. These courses are designed for the beginning artist and guide the student’s development in the visual arts. The program helps students expand and express their knowledge and grow in self-expression by exploring the processes and language that are basic to all visual arts. Rather than follow a system of independent courses in a given medium or discipline, students investigate issues and ideas in a variety of visual modes.

First-year students are required to submit examples of their work only if they are seeking advanced placement; otherwise, all first-year students in art are admitted to the general curriculum. All candidates for the B.F.A. degree must be represented in the senior exhibition.

Students who wish to teach art in Ohio public schools can pursue the B.F.A. degree in art education. Upon completion of this undergraduate degree program in the College of Liberal Arts, students must complete the Professional Educators Program (PEP) Master of Education (M.Ed.) degree through Wright State’s College of Education and Human Services. Graduates of the B.F.A. in art and the Professional Educators Program are eligible to seek licensure from the Ohio Department of Education in Visual Arts Pre-K-12. Requirements for admission to the PEP program include a minimum GPA, C or better grades in all undergraduate content courses, admission testing, and interviews. Throughout their undergraduate work, students should consult regularly with an advisor in the College of Education and Human Services to ensure that they are meeting the requirements of the PEP program.

Degree Requirements—Art

Bachelor of Fine Arts Degree

See General Education Requirements

General Education Requirements	56
Required Course:	
Area VI: Any approved Liberal Arts College Component course	
Departmental Requirements*	123
ART 211, 212, 213 and three additional art history courses	24
Eight courses, two from each of the following studio areas: painting, printmaking, sculpture, and photography	32
16 credits in drawing	16
Five additional courses in area of major concentration	20
Departmental studio electives	16
Departmental or related electives	11
ART 209	4
Nondepartmental Electives	13
Total	192

Degree Requirements—Art Education

Bachelor of Fine Arts Degree

See General Education Requirements

General Education Requirements	56
Required Course:	
Area VI: Any approved Liberal Arts College Component course	
Departmental Requirements*	123
ART 211, 212, 213 and three additional art history courses	24
Eight courses, two from each of the following studio areas: painting, printmaking, sculpture, and photography	32
16 credits in drawing	16
Five additional courses in area of major concentration	20
Departmental studio electives	16
ART 215	4
Departmental or related electives	7
ART 209	4
Nondepartmental Requirements	16
ED 221, 223, 301, 303	12
EDS 333	4
Total	195

Degree Requirements—Art

Bachelor of Arts Degree

See General Education Requirements

General Education Requirements	56
Required Course:	
Area VI: Any approved Liberal Arts College Component course	
Departmental Requirements	68
ART 211, 212, 213 and two additional art history courses	20
Eight courses, two each from four of the following studio areas: drawing, painting, printmaking, sculpture, and photography	32
Departmental electives	4
Departmental studio electives	12
Language and Research Methods Requirement	24–32
Nondepartmental Electives	36–44
Total	192

Degree Requirements—Art History

Bachelor of Arts Degree

See General Education Requirements

General Education Requirements	56
Required Course:	
Area VI: Any approved Liberal Arts College Component course	
Departmental Requirements	68
ART 211, 212, 213	12
One course each from six of the following art history areas: American, ancient-classical, medieval, museology, Renaissance, Baroque, nineteenth century, twentieth century, non-Western, art theory and criticism	24
Three courses, one each from three of the following studio areas: drawing, painting, printmaking, sculpture, and photography	12
Art history electives	12
Departmental electives	8
Language and Research Methods Requirement	24–32
Nondepartmental Electives	36–44
Total	192

Art History Honors Program

The honors program in the Department of Art and Art History is designed to give students with outstanding academic ability and superior accomplishments in art history the opportunity to complete a program that encourages and recognizes their distinguished efforts. These students may earn an honors degree by completing the departmental major requirements, maintaining a high academic record, and successfully completing a senior honors project. Students are usually admitted to the program during the fourth quarter prior to graduation. Interested students can obtain information on the honors program from the Department of Art and Art History office.

Art History Minor

The art history minor consists of ART 211, 212, 213, and five additional upper level art history courses, for a total of 32 credit hours.

Classics

Professor Barr (Chair)
Associate Professors C. King (Emerita), W. King (Emeritus)
Assistant Professors Edwards, LaForse, Marchand
Instructor Kraus

The Department of Classics offers majors leading to the Bachelor of Arts degree in classical humanities and in the classical languages of Greek and Latin. The study of the classics is concerned with the civilizations of ancient Greece and Rome. It is the oldest area of study, requiring an understanding of the disciplines of language and literature, art, archaeology, and history to fully appreciate the contributions of Greece and Rome to western civilization.

Requirements for the major in classical humanities are quite flexible, but it is advisable for students to consult with the department to ensure a well-rounded curriculum. An inflexible requirement is the study of Latin or Greek at the college level. The classical humanities student must complete at least 24 hours of language study and become proficient in at least one of the languages beyond the 202 level. A student who has begun language study elsewhere or who has experienced a lapse of more than one year in the study of the language will be given a proficiency examination to determine the appropriate placement level. Students may also major in either Greek or Latin; these students will be expected to develop some facility in the nonmajor

language.

The major in classical humanities is appropriate for students who have not decided on a specific vocation and who are interested in the humanities. A bachelor's degree in classical humanities is suitable for students who do not plan to extend their formal education beyond the undergraduate level. The major in one of the classical languages is more suitable for students who wish to continue their studies on the graduate level; the areas of ancient history and classical archaeology, as well as classics, are open to them. Students who major in either classical humanities or classical languages will find the bachelor's degree useful in any position for which a liberal arts degree is appropriate.

Early consultation with the Department of Classics is important for students who wish to teach Latin or Greek in secondary schools. They will also need to consult with the College of Education and Human Services for professional licensure requirements.

Degree Requirements—Classical Humanities

Bachelor of Arts Degree

See General Education Requirements

General Education Requirements	56
Required Course:	
Area VI: Any approved Liberal Arts College Component course	
Departmental Requirements	58
Greek or Latin language	24
Classical humanities electives	32
CLS 499	2
College Research Methods Requirement	12
Electives and Related Courses	66
Total	192

Degree Requirements—Greek

Bachelor of Arts Degree

See General Education Requirements

General Education Requirements	56
Required Course:	
Area VI: Any approved Liberal Arts College Component course	

Departmental Requirements	58
Greek language	36
Electives in classical humanities and Latin language electives	20
CLS 499	2
College Research Methods Requirement	12
Electives and Related Courses	66
Total	192

Degree Requirements—Latin

Bachelor of Arts Degree

See General Education Requirements

General Education Requirements	56
Required Course:	
Area VI: Any approved Liberal Arts College Component course	
Departmental Requirements	58
Latin language	36
Electives in classical humanities and Greek language electives	20
CLS 499	2
College Research Methods Requirement	12
Electives and Related Courses	66
Total	192

Classics Honors Program

Superior students may participate in the departmental honors program by applying to the Department of Classics. They should have a minimum GPA of 3.5 in classics and 3.0 overall, and should have completed a substantial portion (27 to 30 hours) of their major requirements. Interested students should contact the department for further details.

Minor in Classical Humanities

The department also offers a minor in classical humanities. The minor is an appropriate second field for many students. The minor requires a total of 32 hours, with a minimum of 12 hours in the Greek or Latin language and a minimum of 16 hours in classical humanities courses, eight of which must be at the 300 level or above.

Communication

Professors DeStephen, Pruett (Emeritus), Rickert, Sayer (chair), Shupe (Emeritus)

Associate Professors Eakins-Reed (Emeritus), Fetzer (Emeritus), Gaines, John, Morgan, Rucker, Ruminski Spicer, Yi

Assistant Professors Peplow

Lecturers Alexander, Baxter

Instructors Antolik, Biswas

The Department of Communication offers programs leading to the Bachelor of Arts degree. Communication students gain an understanding of human communication through the acquisition of skills in speaking, writing, and critical thinking.

The Bachelor of Arts in communication is suitable for students who wish to enter a communication-related career or for individuals interested in personal development. The department offers majors in mass communication, organizational communication, and communication studies. Study in organizational communication is appropriate for students seeking careers in training and development or other organizational communication specialties. Study in mass communication is appropriate for students interested in journalism, media management and production, and public relations. The communication studies program allows students to select courses from all of the communication majors to meet their specific needs.

The communication major can expect to take both theoretical and practical courses and to study communication from both the traditional point of view and through experience. Consequently, students are advised to take advantage of the communication activities in the department, college, and university. These activities include cable television, WWSU-FM radio station, *The Guardian* (student newspaper), the Public Relations Club, cooperative education, and involvement in Dayton area professional organizations.

Degree Requirements—Communication

Bachelor of Arts Degree

The major in communication is for students interested in personal development or a career in education, industry, government, or the media. Communication majors are expected to achieve basic proficiency in communication skills and to master the essentials of communication theory. All communication majors must take 12 hours

of required courses, as well as a minimum of 43 additional hours in communication. All communication majors are encouraged to participate in communication activities outside the university.

To be admitted as majors, students must have at least a 2.5 GPA.

See General Education Requirements

General Education Requirements	56
Required Course:	
Area VI: Any approved Liberal Arts College Component course	
Departmental Requirements	56
Required Courses:	
COM 101, 104, 152, 200, 400, 432 or 457	22
Additional electives in major	34
Foreign Language and Research Methods Requirement	24–32
Electives	48–56
Total	192

Communication Major Curricula

Communication Studies

The communication studies major is designed to develop broadly trained students in the liberal arts. Students are encouraged to develop their abilities as effective communicators and as informed critical receivers. The communication studies major affords students maximum freedom of choice in designing their programs of study and areas of specialization.

Communication Studies Major Requirements	34
Major Core Requirements:	
COM 221, 333, 401, 130/330, 432 or 457	18
Electives (choose four):	
COM 325, 365, 439, 441, 443, 446	16

Mass Communication

The mass communication major is intended to provide students with an understanding of the workings of the mass media and the impact of mass communication on today's world.

Mass Communication Major Requirements	34
Major Core Requirements:	
2 hours of COM 130 or 330 (or LA 203/205/303/305/403/405), COM 256, 358, 411, 462	18
Major Core Requirements in Specialization Area:	
Broadcasting	

COM 253, 360, 460, 464	15
Print Journalism	
COM 364, 366, 454, 458	16
Public Relations	
COM 345, 346, 347, 449	16
Visual Communication	
ART 206, ART 209, COM 364, 368	16

Organizational Communication

The organizational communication major is intended to provide students with knowledge, skills, attitudes, and values that permit them to understand the impact of communication, messages, and structures on organizational growth and development.

Organizational Communication	
Major Requirements	34
Major Core Requirements:	
COM 221, 401, 451, 130/330, 432 or 457	18
Major Core Requirements in Specialization Area:	
Strategic Communication	
COM 446, 447, 448, 452	16
Organizational Conflict	
COM 370, 447, 453, 475	16
Training and Consulting	
COM 443, 446, 449, 452	16

Communication Honors Program

The communication honors program provides outstanding students with opportunities to pursue advanced study. To enter the program, students must complete 40 credit hours in communication and have a minimum GPA of 3.5 in the major and 3.0 overall. Departmental honors will be awarded when the student completes the required number of hours for a major in communication, including at least 12 credit hours in approved communication honors courses. Students must complete a departmental honors project and maintain a 3.0 cumulative GPA and 3.5 GPA in communication courses while they are in the honors program.

Minor in Communication

The communication minor is appropriate for students who want to develop additional skill in communication or who feel that an understanding of communication processes will supplement their major. The minor may be especially useful for students in business, computer science, education, and nursing, as well as students majoring in other areas of the liberal arts.

Communication Minor Requirements	38
Required Courses:	
COM 101, 104, 200, 400	14
Additional courses in communication, with at least 16 hours at the 300 level or above	24

Criminal Justice

Director Tracey Steele

Criminal Justice (CRJ) is an interdisciplinary program leading to the Bachelor of Arts degree. The program is designed to develop knowledge of the criminal justice system, theories of criminal behavior, institutions formed to ensure public safety and enforce the law, and the law. Student core competencies will be developed and required in areas of (1) analytical and ethical decision making; (2) the use of technology; (3) methods of collecting and using data; and (4) communicating to diverse people and through diverse media.

Students admitted into the CRJ program must have earned a minimum cumulative GPA of 2.3 and have completed a minimum of 24 credit hours including ENG 101 and 102 with a grade of "C" or higher, plus three other General Education courses from Areas II, III, or IV. Majors are required to complete five criminal justice core requirements, including an internship; three courses each in criminal justice foundation areas of behavior, institutions, and law; and three criminal justice electives.

Degree Requirements—Criminal Justice

Bachelor of Arts Degree

See General Education Requirements

General Education Requirements	56
Required Course:	
Area VI: Any approved Liberal Arts College Component course	
Core Requirements	20
Required Courses:	
PLS 442	4
PLS 210 or SOC 300	4
SOC 306* or URS 410*	4
SOC 406 (SOC 306 is prerequisite) or URS 411 (URS 410 is prerequisite)	4
SOC 433	4
*Class counts for Liberal Arts Research Methods also.	
Criminal Justice Foundation Areas	36
12 hours from each area:	
Area I: Behavior	
PLS 435; SOC 320, 330, 332, 442; URS 450, PSY 311	

Area II: Institutions

PLS 322, 341, 344, 445; SOC 350, 422, 432, 457; PLS/URS 321, 345; URS 420

Area III: Law

PLS 340, 342, 343, 431, 436, 437, SOC 422, PHL 414

Advanced Criminal Justice Electives 12

12 hours chosen among 300/400 level courses with a minimum of 4 hours at the 400 level.

PLS 322, 323, 340, 341, 342, 343, 344, 345, 346, 375, 427, 431, 435, 436, 437, 440, 443, 444, 445, 446, 448, 471, 472, 484

SOC 300, 306, 313, 315, 320, 330, 332, 350, 360, 406, 422, 432, 433, 440, 442, 444, 457, 459

PLS/URS 321, 345, 346, 427, 446

GEO 447, 448

URS 410, 411, 420, 450

PSY 311; PHL 414

Foreign Language and Research Methods Requirement 24–32

Electives 36–44

Total 192

Minor in Criminal Justice

The criminal justice minor is an interdisciplinary program emphasizing knowledge of the criminal justice system, theories of criminal behavior, law, administration, and policy. Courses are offered by the departments of political science, sociology, and urban affairs and geography. Students admitted into the criminal justice minor must have earned a minimum GPA of 2.3 and completed a minimum of 24 credit hours, including ENG 101 and 102 (with a grade of C or better), HST 101, and any other two General Education courses.

Criminal Justice Minor Requirements 36

Core Requirements:

PLS 442 4

SOC 320 or Soc 330 4

SOC 306 or URS 410 4

Foundation Requirements: 24

(Two courses from each area)

Behavior

PLS 435, 448, 472; SOC 231, 313, 315, 320, 330, 332, 442, 459; URS 450, PSY 311, PSY 200 (Incarceration)

Institutions

PLS 341, 344, 443, 445; PLS/URS 321, PLS/URS 345, PLS 212, PLS/URS 446, URS 420; SOC 350, 432, 440, 457

Law
PLS 340, 342, 343, 375, 431, 436, 437, 439, 440;
SOC 422; PHL 414

Total 36

Dance

See Theatre, Dance and Motion Pictures.

Economics

Professors Blair, Fichtenbaum, Olson, Osborne,
Premus, Renas, Sav, Swaney, Traynor
Associate Professors Dung, Hopkins
Assistant Professors Naidu, Todorova
Lecturer Endres

“Economics” comes from the Greek *oikos*, meaning “house,” and *nemein*, meaning “to manage.” Economics is the social science that studies how people manage their resources. In modern economies this includes an individual deciding on how to use her time; a family managing its budget; a small business controlling its cost; a cultural organization planning its priorities; a city balancing a tight budget with demands for services; a large company working to control the cost of health insurance for its employees; a national government fighting unemployment, poverty, or inflation; and the world community reducing air emissions of mercury and climate-altering greenhouse gases.

Economics is the foundation of all the applied business disciplines, including accounting, finance, marketing, and management. Students can major in economics in either Liberal Arts (B.A. degree) or Business (B.S. degree). The economics program equips students to pursue careers in business and government, prepares them for graduate study in economics, business, or law. Graduates of the program have achieved success as analysts, managers, and leaders in a wide variety of business, public sector, and nonprofit enterprises. Our graduates are employed as professional economists in such areas as urban economics, workforce and training analysis, business forecasting, school finance consulting, health care systems analysis, budget analysis, market consulting, government procurement, government cost analysis, stock and bond brokerage, insurance, and banking. Some graduates are entrepreneurs with their own companies, and other continue their education in the department’s Master of Science in Social and Applied Economics program.

Members of the faculty serve as academic advisors for our majors. Candidates for a Bachelor of Arts degree with a major in economics are required to take a minimum of 56 credit hours in the Department of Economics. Basic courses are supplemented by economics electives.

Bachelor of Arts Degree

See General Education Requirements

General Education Requirements	52
Required Course: Area VI: EC 290	
Departmental Requirements	56
Related Requirements	28–30
Foreign Language and Research Methods	16–24
Electives	30–40
Total	192

Minor in Economics

Any student in the university may earn a minor in economics. The economics minor consists of two courses in principles of economics (EC 204 and EC 205) and four economics electives at the junior or senior level (300 or 400 level courses). A grade of C or better must be obtained in EC 204 and EC 205. The economics electives will count as business electives for the Bachelor of Science in Business students. Students can be admitted to the economics minor after they have been admitted to their major program.

English Language and Literatures

Professors Bracher (Emeritus), Bullock, N. Cary (Emeritus), Correale (Emeritus), Fleischauer (Emeritus), Guthrie, Harden (Emerita), Howard, Hughes (Emeritus), Hussman (Emeritus), Law, Maner, Milligan, Pacernick, Pringle, Sammons, Swanson (Emeritus), Whissen (Emeritus)

Associate Professors Beumer-Johnson, C. Cary (Emerita), Crusan, Hall, Jones, Kich (WSU-Lake Campus), Limouze (chair), Loranger, MacDonald, Mack, Moliterno (WSU-Lake Campus), Oxindine, Schwartz (WSU-Lake Campus), Seitz, Seon, Sharma

Assistant Professors Breuer, Flanagan, Hagen (Emerita, WSU-Lake Campus), Haught, Lamping, Macleod, Snyder (Emerita, WSU-Lake Campus), Strombeck, Zaytoun

Lecturers Allen, Blakelock, Chesire, Cornett, Dickey, Geisel, Klaisner, Rubin, Sayer, Smith, Strader

Instructors Burke, Crews, Crowley, DeThomas, Hayes, Hernandez, Horwitz, Lindsey, Marshall, McGinley, Metzner, Rowe

The English major provides a balanced program of introductory and advanced work in English and American literature, world literature in English, English language and linguistics, and writing. The program offers students the chance to engage in a major humanistic discipline, the study of literature, which is challenging and enriching in itself. The English major also provides sound professional training for those interested in high school or college teaching, the teaching of English as a second language, business or technical writing, or graduate work; and the program is an excellent background for students entering professional schools or planning business careers.

The English major offers five concentrations that have been designed to meet the needs of students with a general interest in literature and of those with special interests in writing or teaching. Students seeking a strong background in literature, history, theory, and analysis should take the general concentration in English, which combines the historical and critical study of literature with innovative approaches to critical methods, women's studies, nontraditional literatures, and non-Western literature in English. The concentration in English with an emphasis on creative writing offers students a full series of introductory and advanced creative writing courses. The concentration in English with an emphasis on professional writing gives interested students a strong combination of literature and professional writing instruction, including course work in business and technical writing, and journalism. The concentration in English with an emphasis on TESOL (Teaching English to Speakers of Other Languages) provides a combination of advanced work in applied linguistics with training in current methods of language teaching.

Finally, the concentration in English with an emphasis on Integrated Language Arts offers a combination of courses in literature, communication, language study, and pedagogy for students interested in seeking licensure to teach English and language arts in middle school or high school.

In choosing electives, students should try to select, in consultation with the departmental advisor, courses that complement their major interest and form a coherent unit of study or courses that provide an appropriate career-oriented concentration.

Degree Requirements—English

Bachelor of Arts Degree

General Concentration in English

See General Education Requirements

General Education Requirements	56
Required Course:	
Area VI: Any approved Liberal Arts College Component course	
English Major Requirements	56
ENG 300, 301	8
ENG 351 or 352; 353 or 354; 355 or 356 or 357; and one more from the ENG 351 through 359 group	16
Four of the following courses:	
ENG 410, 420, 430, 440, 450, 460, 470, 480	16
Three additional 300-level or 400-level courses	12
One course in linguistics (ENG 478 or 479)	4
Foreign Language and Research Methods Requirement	32
Electives	48
Total	192

Concentration in English with an Emphasis on Creative Writing

See General Education Requirements

General Education Requirements	56
Required Course:	
Area VI: Any approved Liberal Arts College Component course	
English Core Requirements	32
ENG 300, 301	8
ENG 351, 352, 353 or 354 (one course); ENG 355, 356 or 357 (one course); and one other course from the ENG 351 through 359 group	12
Two of the following courses:	
ENG 410, 420, 430, 440, 450, 460, 470, 480	8
One course in linguistics (ENG 478 or 479)	4
Creative Writing Requirements	24
Six classes in creative writing, distributed as follows:	
ENG 302, 303, 304 (any two)	
ENG 492, 493 (at least one)	
Three more classes in creative writing	
Note: Any creative writing class may be taken up to three times.	
Foreign Language and Research Methods Requirement	32

132 Liberal Arts

Electives	48
Total	192

Concentration in English with an Emphasis on Professional Writing

See General Education Requirements

General Education Requirements	56
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Required Course:

Area VI: Any approved Liberal Arts College Component course

English Core Requirements	32
ENG 300, 301	8
ENG 351, 352, 353 or 354 (one course); ENG 355, 356 or 357 (one course); and one other course from the ENG 351 through 359 group	12
Two of the following courses:	
ENG 410, 420, 430, 440, 450, 460, 470, 480	8
One course in linguistics (ENG 478 or 479)	4
Professional Writing Requirements	24
Any six classes from the following:	
ENG 330, 333, 343, 344, 364, 400, 402, 404, 405, 454, 458, 495	
Foreign Language and Research Methods Requirement	32
Electives	48
Total	192

Concentration in English with an Emphasis on TESOL

See General Education Requirements

General Education Requirements	56
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Required Course:

Area VI: Any approved Liberal Arts College Component course

English Core Requirements	32
ENG 300, 301	8
ENG 351, 352, 353 or 354 (one course); ENG 355, 356 or 357 (one course); and one other course from the ENG 351 through 359 group	12
Two of the following courses:	
ENG 410, 420, 430, 440, 450, 460, 470, 480	8
One course in linguistics: ENG 478	4
TESOL Requirements	24
ENG 481, 482, 487	12
ENG 483, 484, and either 479 or 488	
OR	

ENG 474, 475, and 477	12
Related Requirement	4
ED 458 or ED 460	4
Foreign Language and Research Methods Requirement	32
Electives	44
Total	192

Integrated Language Arts/English Education

Students who wish to teach English or language arts in Ohio public high schools should pursue the B.A. in English with a concentration in integrated language arts. Upon completion of this undergraduate degree program in the College of Liberal Arts, students then need to complete the Graduate-Level Teacher Preparation Program (GLTPP) Master of Education (M.Ed.) degree through Wright State's College of Education and Human Services. Graduates of the B.A. in English/Integrated Language Arts and the GLTPP are eligible to seek licensure from the Ohio Department of Education in adolescent/young adult integrated language arts.

For admission to the major in English: Integrated Language Arts, students must present any one of the following:

- An overall GPA of 2.50 or better after completion of 48 hours (a minimum of 24 hours completed at Wright State University)
- An overall GPA of 2.25 or better, with grades of B or better in both ENG 300 and 301, after completion of 48 hours (a minimum of 24 hours completed at Wright State University)
- An overall GPA of 2.00 or better, with a GPA of 3.30 in five courses in the English major, after completion of 48 hours (a minimum of 24 hours completed at Wright State University)
- The recommendation of an English department faculty member and permission of the department chair

Requirements for admission to the GLTPP include a minimum GPA, admission testing, and interviews. Throughout their undergraduate work, students should consult regularly with their advisor in the College of Education and Human Services to ensure that they are meeting requirements to enter the GLTPP.

Concentration in English with an Emphasis on Integrated Language Arts/English Education

See General Education Requirements

General Education Requirements	56
Required Course:	
Area VI: Any approved Liberal Arts College Component course	
English Core Requirements	32
ENG 300, 301	8
ENG 351, 352, 353 or 354 (one course); ENG 355, 356 or 357 (one course); ENG 359 or ENG 310	12
Two courses from the following:	
ENG 410, 420, 430, 440, 450, 460, 470	8
Note: It is strongly recommended that literature courses selected include works by Shakespeare, diverse female writers, and writers of color and/or ethnic diversity.	
One course in linguistics (ENG 340 or 478)	4
Language Arts Requirements	24
ENG 341, 345, 346, 385	16
ENG 486	4
One course from the following:	4
ENG 347, 454, 470, 480, 483, 488	
Co-Requisites	32
COM 101, 152, 200	12
COM 256 or 411	4
ED 221, 223, 301, 303; EDS 333	16
Foreign Language and Research Methods Requirement	32
Electives	16
Total	192

English Honors Program

The honors program in English is designed to encourage and recognize superior academic accomplishments by English undergraduates. With the approval of the chair of the English department and the departmental honors advisor, students who meet the eligibility standards may enter the English honors program before the beginning of their senior year. Students may be admitted to the program on the recommendation of any member of the English department faculty, or students may petition to enter the program. Under the direction of a faculty tutor, students in the honors program will complete an honors project that culminates in their writing an honors thesis or project report. For further information on eligibility and enrollment, students should consult the departmental honors advisor.

Minor in English

The minor in English is designed for students who wish to take a coherent body of courses in English and American literature. The minor combines core courses in literary history and methodology with a selection of advanced studies. Students interested in the minor should consult with the departmental advisor to determine the best courses for their needs.

English Minor Requirements	36
ENG 300, 301	8
ENG 351, 352, 353, 354 (one course); ENG 355, 356, 357 (one course); and one other course from the ENG 351 through 359 group	12
Two of the following courses:	
ENG 410, 420, 430, 440, 450, 460, 470, 480	8
Two additional 300-level or 400-level courses	8

Minor in TESOL

The TESOL minor provides students with course work that complements many other majors. The TESOL minor consists of core TESOL (emphasizing teaching English as a second or foreign language) or TEFL (focusing specifically on teaching English as a foreign language) methodology/materials and theory/culture courses, in addition to introductory linguistics, grammar, and assessment courses, and a four-hour practicum. Interested students should contact the director of TESOL.

TESOL Minor Requirements	28
ENG 478	16
(prerequisite or co-requisite for the remaining courses in the TESOL minor), 482, 487, 460	
and either the following three TESOL courses:	
ENG 481, 483, 484	12
or the following three TEFL courses:	
ENG 477, 480, 485	12

Certificate Program in Technical and Professional Writing

A certificate in professional writing is available to all students who successfully complete five courses from a list of approved writing courses (20 hours total). The certificate program can supplement any of the English concentrations or any other major. The courses in the program prepare students for careers as writers in business and related fields, as journalists, and as editors. Interested students should contact the departmental advisor or the director of writing programs for further information.

Certificate Program in TEFL

A certificate program in Teaching English as a Foreign Language provides the basic knowledge and skills necessary to teach English overseas. Unlike the TESOL certificate, the TEFL certificate focuses exclusively on English as a foreign language.

addressing the special circumstances and resulting challenges involved in teaching students English in their home country. Four courses and a practicum provide the requisite knowledge in language, theory, culture, and classroom teaching of English abroad. The TEFL certificate is open to any major or nondegree student who has completed ENG 102. Interested students should contact their department advisor or the director of TESOL programs for further information.

Certificate Program in TESOL

The English department offers a certificate program in Teaching English to Speakers of Other Languages. Five courses and a practicum provide the requisite knowledge of linguistics and TESOL theory and methods. Interested students should contact their departmental advisor or the director of TESOL for further information. For information about the Endorsement in TESOL, the public school credential, interested students should contact the College of Education and Human Services or the director of TESOL.

History

Professors Becker (Emeritus), Dorn, Haas (Chair), Lockhart, Sherman, Spetter (Emeritus)
Associate Professors Arbagi (Emeritus), Carlson (WSU-Lake Campus), Carrafiello, Garner, Green, Herringer, McLellan, Melton (Emeritus), Meyer, Vice, Yuan (Emeritus)
Assistant Professor Wachtell (Emeritus)
Lecturer Oldstone-Moore

The undergraduate major in history exposes students to a broad spectrum of human experience in the past and present, arming them with an understanding of the self and of their relationship to other human beings and to the structure of society. History students are encouraged to further their knowledge of the principal developments and problems of history and to enrich their understanding of historical evolution through research and writing. Through elective courses in other departments, students gain a broad liberal arts education and enlarge their historical perspective. The history major can thus be used generally by students who wish to be useful members of the community and specifically by students who seek careers in teaching, journalism, library and archival work, government, politics, law, and business. The program also provides a sound basis for students planning to pursue graduate study.

Students in the history program are assigned an academic advisor who assists them with academic routines, selecting individual courses, and developing undergraduate and postgraduate goals. Students interested in careers in law, public service, journalism, or business should consult with the advisor about departmental programs particularly geared to these fields.
Majors are expected to maintain at least a 2.0 GPA in history for graduation.

Degree Requirements—History Bachelor of Arts Degree

See General Education Requirements

General Education Requirements	56
Required Courses:	
HST 101, 102, 103 (any two)	
Recommended Course:	
Area VI: HST 200, 220 or 221	
Departmental Requirements	54
HST 211 and 212	6
HST 400 (Historiography)	4
HST 401 (Methods Seminar)	4
U.S. history (upper division)	8
European history (upper division)	8
Asian, African, Latin American history (upper division)	8
Related electives (upper division)	16
Foreign Language and Research Methods Requirement	24–32
Electives	50–58
Total	192

History Honors Program

The honors program allows qualified students to carry out independent research under the guidance of a faculty sponsor. Departmental honors are awarded at graduation based on the student's completing the following: at least one interdisciplinary honors seminar; a 3.5 GPA in history and a 3.0 GPA in overall course work; completion of an honors thesis with a grade of A or B. In exceptional cases, certain requirements may be waived by a vote of the departmental curriculum committee. Interested students should consult with the departmental advisor.

Minor in History

The minor in history will benefit students majoring in disciplines such as religion, classics,

political science, and literature. Students minoring in history will acquire the historical background and learn the critical and analytical techniques used by historians.

The history minor consists of 30 hours of course work, excluding courses taken for General Education.

Departmental Requirements	30
American history: HST 211, 212	6
Three upper division courses, one each in the following:	12
American history	
European history	
Asian, African, or Latin American history	12
Twelve hours of upper division course work in areas of the student's choice to be selected in consultation with an advisor.	

International Studies

Director December Green

The international studies major offers students the opportunity to study international politics, economics, culture, and society. The major combines intensive study of a foreign language with an interdisciplinary curriculum of study chosen by a student in consultation with a faculty advisor.

The Bachelor of Arts degree program in international studies consists of three parts: three years of study of one foreign language; the major core courses, which include introductory work in art history, economics, geography, history, political science, religion and women's studies; and work in a specialized track.

The specialized tracks in the international studies major provide six options: international diplomacy and peace studies, area studies, comparative cultures, international economics, global gender studies, and research/intelligence analysis. The international diplomacy and peace studies track includes courses in political science, communication, and history. The area studies track allows students to focus on a global region (e.g., Africa or Latin America) and includes classes in anthropology, history, humanities, and political science. The comparative cultures track includes courses from anthropology, classics, English, history, humanities, philosophy, and religion. The international economics track focuses on global economic concerns, with supporting course work in history, political science, and sociology. The global gender studies track incorporates a gender-analysis

approach to diplomacy, area studies, comparative cultures, and international economics. The research/intelligence track combines course work in research methods, ethics, and a variety of disciplines to assist those interested in international affairs to work in data analysis.

Study abroad opportunities in Australia, Chile, Costa Rica, Denmark, England, France, Germany, Ireland, Israel, Italy, Japan, Malta, New Zealand, Scotland, Spain, Thailand, and elsewhere are available through the University Studies Abroad Consortium, of which Wright State is a member. Study abroad and cultural exchange can be arranged through the University Center for International Education, E190 Student Union.

Although studying abroad is not a requirement for an international studies degree, students will find that it will greatly enrich their educational experience, as will exposure to a foreign culture and peoples. In order to have adequate language preparation, students interested in studying abroad should design their course of study well in advance of their trip.

Students interested in careers in government, international business, teaching, or journalism should contact the director of the international studies major. The major program also provides sound preparation for students interested in graduate work in law, the humanities, or the social sciences.

Degree Requirements—International Studies

Bachelor of Arts Degree

See General Education Requirements

General Education Requirements	56
Required Course:	
Area VI: Any approved Liberal Arts College Component course	
Foreign Language and Research Methods Requirements	44
Twelve hours minimum at the 300 level or demonstrated proficiency at the level of 312, 322, or 325 and three research methods courses.	
Major Core Requirements	19–20
Choose at least five of the following courses:	
ART 213	
CSE 250	
GEO 325	
HST 200	
PLS 222	
REL 245	

WMS 200

Major Specialized Track 28–58

Total course work in the core and specialized tracks may not exceed 76 hours. Course work numbered 300 or above should be emphasized. Close consultation with and approval of the major advisor is required.

Choose one:	
International Diplomacy and Peace Studies	
Area Studies	
Comparative Cultures	
International Economics	
Global Gender Studies	
Research/Intelligence Analysis	
Total (core and specialized track)	47–78
Electives	14–45
Total (minimum)	192

Honors Program

Departmental honors in international studies are awarded upon graduation to qualified international studies majors who carry out independent research under the guidance of a faculty sponsor and who complete an honors thesis with a grade of A or B. Juniors with a cumulative grade point average of at least 3.0 (and 3.5 in the major) should contact the program director about this opportunity and its requirements.

Minor in International Studies

Students majoring in any field will benefit from a basic understanding of international affairs. The international studies minor consists of 36 credit hours and requires completion of a foreign language through the 202 level. Because a variety of concentrations is available in the minor, students should consult with the program director to determine the best program of coursework.

Program Requirements	36
Three of the following courses:	12
ART 213 or 214; CSE 250; GEO 325; HST 200; PLS 222; REL 245 or CST 232; WMS 200	
24 hours of upper division course work from at least three disciplines in areas of the student's choice, to be selected in consultation with advisor	

National Honor Society

International studies majors may become eligible for election to Phi Beta Delta, the honor society for international scholars. For more information, interested students should see the director of the program.

Liberal Studies

Director Mark Sirkin

Wright State's liberal studies major allows students to tailor their academic program to their needs and interests across a wide range of disciplines. This program is designed for students seeking a more interdisciplinary educational experience than is available with other majors. The liberal studies degree prepares students for a variety of careers. The program can serve as a pre-law curriculum. English, communication, political science, and history courses can help prepare students for careers in journalism or other media. Fine arts courses can be combined with other disciplines to prepare people for careers working in museums or art galleries in research, marketing, or management capacities. Others could use the degree to prepare for careers in library science or in the publishing industry. Because students select from a range of disciplines to individualize their programs, there are many other career possibilities.

The Bachelor of Arts in liberal studies focuses on the core competency areas of communication, critical thinking, understanding society, and self-understanding. Students will complete eight hours each in the humanities, fine arts, and social sciences, and then select one of those three as an area of concentration. With help from a faculty advisor, students may choose courses from a variety of disciplines.

This program requires extensive advising and the development of a program of study. Some departments may have specific entrance/audition requirements.

Degree Requirements—Liberal Studies

Bachelor of Arts Degree

See General Education Requirements

General Education Requirements	56
Required Course:	
Area VI: Any approved Liberal Arts College Component course	
Foreign Language Requirement	20
Research Methods Requirement	12
Major Requirements (see next page)	60

Related Requirements

Professional Component	12
Interdisciplinary Studies	8
Electives	24
Total (minimum)	192

Major Requirements

Core (24 hours): Eight hours in each of the three Liberal Arts areas of specialization: humanities, fine arts, and social sciences. In general, the fine arts area includes courses offered by the departments of art and art history, music, and theatre, dance, and motion picture. The humanities area consists of classics, communication, English, history (which can also be classified as a social science), modern languages, philosophy, and religion. The social science departments are economics, political science, social work, sociology/ anthropology, and urban affairs/geography.

Concentration (36 hours): These are *upper division* courses from within one of the three Liberal Arts areas of specialization. Two of these courses must be writing intensive. These 36 hours may constitute a minor (or equivalent) within a single discipline or come from several disciplines within the area. (At this point, the student's academic advisor should be from a department within the concentration or in the department offering the minor being sought.)

Related Requirements

Professional Component (12 hours):

These are courses that will enhance a liberal studies major's chances for employment or career advancement, such as courses in business, communication, computer science, education, and public administration.

Interdisciplinary Studies (8 hours): These are courses in African and African American studies, international studies, women's studies, and other courses of a multidisciplinary nature. These will be selected from a list of courses approved by the liberal studies program director.

Electives (24 hours)

These are courses selected by each student. Included here are any prerequisites needed for courses in the core, concentration, or related requirements.

Portfolio

A portfolio of three term papers from courses taken in the major is also required. Contact the program director for details.

Modern Languages

Professors Garrison (chair), Petreman

Associate Professors Halling

Assistant Professors Bonch-Bruevich, Broughton, Dona, Hertzler, Serrano

Lecturers Alvarez, Cipriano, Galbraith, Rubin

Instructors Blubaugh, Cabrera, Carrero

The Department of Modern Languages offers majors in French, German, Spanish, and Modern Languages (a combination of three languages), along with collaborative majors in International Business and International Studies. Students can minor in French, German, or Spanish, and they can take classes in Arabic, Chinese, Italian, Japanese, Portuguese, Russian, and Swedish.

The university has foreign study programs in Brazil, Chile, China, Costa Rica, Denmark, France, Germany, Japan, Mexico, Spain, Sweden, and other countries; the department strongly encourages its majors and minors to spend some time abroad. Different programs allow students to study from three weeks to an entire year in a foreign country.

Language courses offered by the department combine training in oral and written language proficiency with study of the culture and literary heritage of countries other than our own. The department also offers applied language courses such as Business French/German/Spanish to help students enhance their career opportunities. Graduates, especially if they have additional training in another discipline, will be prepared for a wide variety of careers.

Students who wish to teach French, German, or Spanish in Ohio public schools earn the Bachelor of Arts degree in the respective major and then take a graduate teacher preparation program through the College of Education and Human Services at Wright State or at another university. Requirements for admission to the WSU program, which currently offers preparation in only two languages (French and Spanish), include a minimum grade point average of 2.7, C or better grades in all undergraduate content courses, admission testing, and interviews. Graduates are eligible for the Multi-Age License through the Ohio Department of Education.

Undergraduate Language Requirement, College of Liberal Arts

Students majoring in all Bachelor of Arts programs within the College of Liberal Arts must complete a sequence of courses in a foreign language (Chinese, French, German, Greek, Latin, Portuguese,

or Spanish) through the 202 level, demonstrate proficiency at the 202 level through examination, or take a six-quarter sequence of courses in American Sign Language (RHB 101, 102, 103, 228, 229, 230). Students with no foreign language background will take 101, 102, 103, 201, and 202; those who have studied a foreign language previously can place into this sequence at their skill level (see information below on placement tests). Each course in the sequence is the prerequisite for the next one, so once students start the sequence, they may skip ahead only with permission from their professor and the department chair.

Students who graduated from high school before 1987 are required to take language classes only through 103 or demonstrate proficiency at that level.

High School Deficiencies

Wright State students, even those in majors that do not normally require study of a foreign language, must take three quarters of a language if they did not pass at least two years of a single foreign language in high school.

Placement

Students may take a free computerized placement test in the department office (325 Millett) or the language lab (303 Millett) to determine the appropriate starting point for them within the sequence of language courses. The test takes about 20 minutes, and it can be taken at any time during normal business hours, Monday through Friday. Generally, students with up to two years of foreign language in high school place into 101, 102, or 103. Those who have studied for three or more years in high school and received grades of “B” or better generally place into 201 or 202.

Credit by Examination

Students who place into and attain a grade of C or better in language classes above 101 or 111(102-203) may buy undergraduate credits for sequenced courses.

Proficiency Credits in French, German, and Spanish

Proficiency credit in French, German, and Spanish may be earned in two areas: 300-level conversation courses (4 credit hours) and 300-level composition courses (8 credit hours).

Proficiency in Languages other than French, German, and Spanish

Students who claim a language other than English as their native language may complete their foreign language requirement by taking one of several 300-level English courses (ENG 350-ENG 359) or by taking a proficiency exam administered

by that department. These students should contact the English Department for further information. Native speakers who would like to take a proficiency examination in a language other than English, French, German, or Spanish, may do so elsewhere by agreement with the department. It is the responsibility of students to arrange for such tests.

Master of Education: Classroom Teacher, Modern Languages

Currently credentialed teachers may wish to pursue the degree of “Master of Education: Classroom Teacher, Modern Languages” through Wright State’s College of Education and Human Services. This degree requires 48 graduate credit hours of study, half of them in education and half of them in modern languages.

Degree Requirements—French

Bachelor of Arts Degree

See General Education Requirements

General Education Requirements	56
Required Course:	
Area VI: Any approved Liberal Arts College Component course	
Departmental Requirements	66
FR 201, 202, 203, 311, 312, 313	24
FR 321, 322, 323, 331, 332	20
FR 361	2
French electives (300-level and at least two 400-level courses)	20
College Research Methods	12
Related Requirements	16
CPL 310	4
ML 301, 302, 303, 304, 305, 306	8
(Students should choose the culture course related to their field, plus at least one other culture course.)	
ML 311, 312, 313, 314, 315, 316	4
(Students should choose one literature-in-translation course outside their own field.)	
Electives	42
Total	192

Degree Requirements—German

Bachelor of Arts Degree

See General Education Requirements

General Education Requirements	56
Required Course:	
Area VI: Any approved Liberal Arts College	
Component course	
Departmental Requirements	60
GER 201, 202, 203, 311, 312	20
GER 321, 322, 331, 332	16
German electives (300-level and at least two 400-level courses)	24
College Research Methods	12
Related Requirements	20
CPL 310	4
LI 371	4
ML 301, 302, 303, 304, 305, 306	8
(Students should choose the culture course related to their field plus at least one other culture course.)	
ML 311, 312, 313, 314, 315, 316	4
(Students should choose one literature-in-translation course outside their own field.)	
Electives	44
Total	192

Degree Requirements—Spanish

Bachelor of Arts Degree

See General Education Requirements

General Education Requirements	56
Required Course:	
Area VI: Any approved Liberal Arts College	
Component course	
Departmental Requirements	62
SPN 201, 202, 203, 311, 312	20
SPN 321, 322, 323 or 325	12
SPN 331, 332, 333, 334, 361	18
Spanish electives (400-level courses)	12
College Research Methods	12
Related Requirements	20
CPL 310	4
LI 371	4
ML 301, 302, 303, 304, 305, 306	8
(Students should normally choose the culture course related to their field, plus at least one other culture course; however, if they are headed for a teaching career, they should choose both Spanish and Spanish-American culture.)	
ML 311, 312, 313, 314, 315, 316	4
(Students should choose one literature-in-translation	

course outside their own field.)

Electives	42
Total	192

Degree Requirements—Modern Languages

Bachelor of Arts Degree

The degree in Modern Languages is a combination of at least three languages: 36 credit hours in a primary field and 36 credit hours in a secondary field. A primary field is a concentration in French, German, or Spanish; a secondary field is any combination of languages the department offers, other than the one selected for the primary field. At least one of the second languages must be pursued through the 203 level. First-year courses will not be counted toward the primary field but may be used to fulfill the requirements for the secondary field. The primary field must include at least two courses at the 400 level.

See General Education Requirements

General Education Requirements	56
Required Course:	
Area VI: Any approved Liberal Arts College	
Component course	
Departmental Requirements (at least three languages)	76
Primary language (example)	
FR 201, 202, 203, 311, 312, 321, 322, 403, 452	40
Secondary language (example)	
SPN 101, 102, 103, 201, 202, 203	24
GER 101, 102, 103	12
College Research Methods	12
Related Requirements	20
CPL 310	4
LI 371	4
ML 301, 302, 303, 304, 305, 306	8
(Students should choose the culture course related to their field, plus at least one other culture course.)	
ML 311, 312, 313, 314, 315, 316	4
(Students should choose one literature-in-translation course outside their own field.)	
Electives	28
Total	192

Cultural Proficiency Requirement

Each student wishing to graduate with a major in the Department of Modern Languages is required to pass a test based on the department's cultural handbook. This booklet of basic facts about French, Francophone, German, Spanish, and Latin American culture is presented to all students when they declare a major in the department. The test is given on the first Friday of every quarter and may be taken any quarter. The minimum passing grade is 93 percent.

Modern Language Minors—French, German, Spanish

A minor in a foreign language greatly enhances a student's career prospects. Minors are offered in French, German, and Spanish. They require a minimum of 32 credit hours selected from courses at the 200 level or above (excluding LI 371). A minor in Spanish, for example, might consist of the following courses:

SPN 201, 202, 203	12
SPN 311, 312	8
SPN 321, 322, 323	12
Total	32

A student beginning the program above the 200 level need take only five courses at the 300 or 400 level for a minor.

Music

Professors Dahlman, Dregalla (chair), Larkowski
Associate Professors Booth, Cha, Ellis, Jagow, Laws, Leung, Nelson, Paul, Tipps, K. Warrick
Assistant Professors Chaffee
Instructors Cameron, Davis

The Department of Music offers a four-year curriculum designed for students who wish to pursue a career in music. As an accredited member of the National Association of Schools of Music, the department has designed the requirements for entrance and graduation according to the published standards of that association. The Bachelor of Music degree is offered with majors in performance, music education, and music history and literature; the Bachelor of Arts degree is offered with a major in music. A Master of Music degree with majors in music education and performance and a Master of Humanities degree are also offered. Because of the highly individualized nature of the various programs, students are required to consult with an advisor to plan their major program.

In addition to fulfilling university admissions procedures, prospective music majors must also complete a departmental application for an

audition, perform a satisfactory audition in a major performance area, and meet with an assigned advisor from the music faculty for counseling and registration. Transfer students must submit a transcript of all previous work in addition to completing the above steps. A minimum of one year of full-time study is required of all transfer students working toward a degree.

The department has developed a course of study based on four levels of technical proficiency, musicianship, and repertoire in all areas of applied music. Students should consult regularly with their applied music instructors and advisors to ensure progress through the various levels. Students enrolled in applied music courses are required to attend a specified number of recitals, concerts, and other approved performances. Solo recital performances are also required of music majors. For information regarding applied music requirements and keyboard proficiency requirements, students should refer to the Undergraduate Studies in Music student handbook.

Because of the cost of individual instruction, special quarterly fees are charged for applied music and, in certain cases, for accompanists. Applied music is also available to nonmajors on a limited basis and subject to instructor availability. A rental fee is charged for use of university-owned instruments in class instruction. There is no charge for use of these instruments in university ensembles.

All music degree programs require a minimum number of hours for graduation. A detailed, four-year curriculum outline for each major program is available in the Department of Music office.

Any student who fails a required music course a second time must petition in order to continue the program. The petition will go to the Academic Studies Committee, which, along with the applied teacher, the advisor, and the instructor of the class, will make a determination to accept or reject the petition, or to determine/recommend any additional conditions necessary to remain in the program.

All students in the university, as well as members of the community, are eligible to participate in performing groups. Some groups require individual auditions; prospective members should consult the various conductors to arrange auditions. The following instrumental groups are available: University-Community Orchestra, Chamber Orchestra, Concert Band, Wind Symphony, Chamber Players, Pep Band, Clarinet Choir, Saxophone Quartet, Brass Choir, Trombone Ensemble, Collegium Musicum, and Jazz Band. Choral groups include the University Chorus, Men's Chorale, Women's Chorale, Madrigal Singers, Collegiate Chorale, and Paul Laurence Dunbar Chorale. Students majoring in other academic areas and members of the community may also take music courses especially designed for the nonmusic major.

Degree Requirements— Performance

Bachelor of Music Degree

The department offers majors in the following areas of performance: bassoon, clarinet, classical guitar, euphonium or baritone horn, flute, horn, oboe, organ, percussion, piano, saxophone, string bass, trombone, trumpet, tuba, viola, violin, violoncello, and voice. With departmental permission, students may major in fields other than those listed. Students must study continuously in their chosen disciplines until they meet all graduation requirements, including satisfactory public performance of specified recitals during the junior and senior years.

Each music performance major is required to participate in at least one university ensemble related to the student's applied music concentration during each quarter in which the student is enrolled full time. Assignment to an ensemble is made by the director of bands, director of choral studies, or director of orchestral studies; the appropriate ensemble director; and the student's full-time applied instructor. When the student's applied instructor is not a full-time faculty member, approval must be given by the chair of the student's applied board. To be eligible for the Bachelor of Music degree, the performance major must have a minimum cumulative GPA of 3.0 in the major performing medium and a 2.0 in all other required music courses.

See General Education Requirements

General Education Requirements	56
Required Substitutions:	
Area IV: MUS 121, 122	4
Required Course:	
Area VI: CST 242	4
Departmental Requirements	87
Music Theory ¹ : MUS 101, 102, 103, 201, 202, 203	18
Sight-Singing ¹ : MUS 151, 152, 153, 251, 252, 253	6
Music History ¹ : MUS 311, 312, 313	9
Form and Analysis: MUS 342	3
Computer Applications: MUS 465	3
Large ensemble ²	12
Applied music ³	36
Recital: MUS 100	12

¹ These classes must be taken and passed in sequence.

² As appropriate to instrument/voice and background, as determined by director of bands, director of choral studies, director of orchestral studies (as appropriate) in consultation with a student's applied teacher

³ Applied music credit hours

Freshman: 2/2/2 **Sophomore:** 2/2/2

Junior: 4/4/4 **Senior:** 4/4/4

Performance Area Requirements	54–58
<i>Vocal Performance</i>	58
Keyboard: MUS 155, 156, 157, 255, 256, 257, 355, 356, 357	9
Opera: MUS 420 (4 quarters)	8
Basic Conducting: MUS 335	2
Vocal Pedagogy: MUS 443, 444	4
Vocal Literature: MUS 455, 456, 457	9
Italian	8
German or French	8
Pronunciation of Foreign Language: MUS 261, 262	4
Electives	6
<i>Piano Performance</i>	55
Chamber Music: MUS 205	9
Basic Conducting: MUS 335	2
Piano Pedagogy: MUS 316, 317	6
Counterpoint: MUS 301	3
Orchestration: MUS 343	2
Piano Literature: MUS 451, 452, 453	9
Foreign Language	12
Electives	12
<i>Organ Performance</i>	54
Religion	3
Chamber Music: MUS 205	3
Basic Conducting: MUS 335	2
Pedagogy: MUS 441, 442	2
Counterpoint: MUS 301	3
Orchestration: MUS 343	2
Advanced Music Literature	3
Foreign Language	12
Voice	6
Electives	18
<i>String Performance</i>	54
Keyboard: MUS 155, 156, 157, 255, 256, 257	6
Chamber Music: MUS 205	9
Basic Conducting: MUS 335	2
Pedagogy: MUS 441, 442	2
Counterpoint: MUS 301	3
Orchestration: MUS 343	2
Advanced Music Literature	3
Secondary Instrument	3
Other ensembles	6
Electives	18
<i>Woodwind Performance</i>	54
Keyboard: MUS 155, 156, 157, 255, 256, 257	6
Chamber Music: MUS 205	6
Basic Conducting: MUS 335	2
Pedagogy: MUS 441, 442	2
Counterpoint: MUS 301	3
Orchestration: MUS 343	2
Advanced Music Literature	3
Chamber Ensemble/Orchestra/Jazz Ensemble	9
Secondary Instrument	3
Electives	18
<i>Brass Performance</i>	54
Keyboard: MUS 155, 156, 157, 255, 256, 257	6
Chamber Music: MUS 205	6

Basic Conducting: MUS 335	2
Pedagogy: MUS 441,442	2
Counterpoint: MUS 301	3
Orchestration: MUS 343	2
Advanced Music Literature	3
Orchestra	6
Jazz Ensemble	3
Secondary Instrument	3
Electives	18
<i>Percussion Performance</i>	54
Keyboard: MUS 155, 156, 157, 255, 256, 257	6
Chamber Music: MUS 205	6
Basic Conducting: MUS 335	2
Pedagogy: MUS 441,442	2
Counterpoint: MUS 301	2
Orchestration: MUS 343	3
Advanced Music Literature	3
Orchestra	6
Jazz Ensemble	3
Chamber Ensemble	3
Electives	18
<i>Guitar Performance</i>	54
Keyboard: MUS 155, 156, 157, 255, 256, 257	6
Chamber Music: MUS 205	12
Basic Conducting: MUS 335	2
Pedagogy: MUS 441, 442	2
Counterpoint: MUS 301	3
Orchestration: MUS 343	2
Advanced Music Literature	3
Secondary Instrument/voice	3
Electives	21
Total	197–201

Degree Requirements—Music Education

Bachelor of Music Degree

Students who major in music education may choose either an instrumental or a vocal general music curriculum. Upon completing the requirements of the music education program, students are able to apply for teaching licensure. To be eligible for the Bachelor of Music degree, music education majors must have a minimum cumulative GPA of 3.0 in required music courses. An overall minimum cumulative GPA of 2.7 is required. Any grade lower than a “C” in one of the Music Education Classes will not count towards graduation. It MUST be retaken

Failing to maintain these GPAs, students will have three quarters to improve their grades to the minimum standard after which time they will need to petition the Music Education Committee to continue taking music education courses.

Students planning to major in music education will be placed in the “Music: Unspecified” category

until the following requirements have been met: (1) satisfactory completion of MUS 101, 102, 151, 152, 155, 156, and two quarters of applied concentration and ensemble study; (2) minimum grade of C in applied and ensemble studies for two consecutive quarters; (3) no failing grade in music courses during two consecutive quarters; and (4) minimum cumulative GPA of 2.7 in total course work after the completion of 30 quarter hours.

Each music education major is required to participate in at least one university ensemble related to the student’s applied music concentration during each quarter in which the student is enrolled full time, with the exception of the quarter in which the student is student teaching. Assignment to an ensemble is made by the director of bands, director of choral studies, or director of orchestral studies; the appropriate ensemble director; and the student’s full-time applied instructor. When the student’s applied instructor is not a full-time faculty member, approval must be given by the chair of the student’s applied board. 300 hours of field observation and clinical experiences are required prior to student teaching.

During the senior year, all students will perform in student recitals two or three times, for a total of 25 to 30 minutes. With the approval of the studio teacher and the applied music board, students may present a half recital or a full recital in lieu of this requirement.

See General Education Requirements

General Education Requirements	56
Required Substitutions:	
Area IV: MUS 121, 122	4
Required Course:	
Area VI: CST 242	4
Professional Education	28–30
ED 221, 223, 303, 419, 429, 432, 440; EDS 333; MUS 199, 401	
Departmental Requirements	72
Music Theory ¹ : MUS 101, 102, 103, 201, 202, 203	18
Sight-Singing ¹ : MUS 151, 152, 153, 251, 252, 253	6
Computer Applications: MUS 465	3
Form and Analysis: MUS 342	3
Music History ¹ : MUS 311, 312, 313	9
Large Ensemble ^{2,3}	11
Applied music ³	22
Recitals: MUS 100	11

¹ These classes must be taken and passed in sequence.

² As appropriate to instrument/voice and background, as determined by director of bands, director of choral studies, director of orchestral studies (as appropriate) in consultation with a student’s applied teacher

³ Not taken during the quarter of student teaching

One of the following programs: 36–38

<i>Instrumental/Band</i>	37
Keyboard ¹ : MUS 155, 156, 157	3
Orchestration: MUS 343	2
Elementary Music Education: MUS 328	3
Basic Conducting: MUS 335	2
Instrumental Conducting ² : MUS 336, 337, 338	6
Instrumental Music Education ² : MUS 323, 324, 325	6
Woodwind Methods: MUS 227, 228	2
Brass Methods: MUS 224, 225	2
String Methods: MUS 215	1
Percussion Methods: MUS 231	1
Voice Class: MUS 145	1
Choir	2
Chamber Music: MUS 205	3
Electives ¹ :	3

¹ For keyboard majors, substitute MUS 357 (or proficiency), and complete five hours of electives (instead of three)

² Meet concurrently

<i>Instrumental/Orchestra</i>	36
Keyboard ¹ : MUS 155, 156, 157	3
Orchestration: MUS 343	2
Elementary Music Education: MUS 328	3
Basic Conducting: MUS 335	2
Instrumental Conducting ² : MUS 336, 337, 338	6
Instrumental Music Education ² : MUS 323, 324, 325	6
Elementary Woodwind Methods: MUS 229	1
Elementary Brass Methods: MUS 226	1
String Methods: MUS 215, 216	2
Percussion Methods: MUS 231	1
Voice Class: MUS 145	1
Choir	2
Chamber Music: MUS 205	3
Electives ¹ :	3

¹ For keyboard majors, substitute MUS 357 (or proficiency), and complete five hours of electives (instead of three)

² Meet concurrently

<i>Vocal/Choral</i>	38
Keyboard ¹ : MUS 155, 156, 157, 255, 256, 355, 356, 357	9
Elementary Music Education: MUS 328	3
Vocal Pedagogy: MUS 441, 442	2
Basic Conducting: MUS 335	6
Choral Conducting: MUS 339, 340, 341	6
Choral Music Education: MUS 327, 329, 330	2
Elementary Woodwind Methods: MUS 229	1
Elementary Brass Methods: MUS 226	1
String Methods: MUS 215	1
or	
Percussion Methods: MUS 231	1
French Diction: MUS 261	2
German Diction: MUS 262	2
Elective:	3

¹ For keyboard majors, substitute MUS 111, 112, 113; MUA (voice: six quarters/six credits); and MUS 357 (or proficiency)

Total 192–196

Music History and Literature

The major in music history and literature is not a terminal degree, and students should expect to continue at the graduate level. Therefore, students should consult with the appropriate faculty advisor before entering.

Students planning to pursue this major will be placed in the "Music: Unspecified" category until the following requirements have been met: a minimum grade of C in MUS 121 and completion of MUS 103 and 153.

Students majoring in music history and literature must complete level III in the applied music concentration. Students must maintain a minimum cumulative GPA of 3.0 in required major courses and 2.0 in other required music courses. Senior students are required to complete a senior project. The project may consist of an extensive written research paper or a scholarly lecture or lecture/recital.

Degree Requirements—Music History and Literature

Bachelor of Music Degree

See General Education Requirements

General Education Requirements	56
Required Substitutions:	
Area IV: MUS 121, 122	4
Required Course:	
Area VI: CST 242	4
Departmental Requirements	51

Music Theory ¹ : MUS 101, 102, 103, 201, 202, 203	18
Sight-Singing ¹ : MUS 151, 152, 153, 251, 252, 253	6
Computer Applications: MUS 465	3
Form and Analysis: MUS 342	3
Music History ¹ : MUS 311, 312, 313	9
Large Ensemble ²	12
Recitals: MUS 100	12

¹ These classes must be taken and passed in sequence.

² As appropriate to instrument/voice and background, as determined by director of bands, director of choral studies, director of orchestral studies (as appropriate) in consultation with a student's applied teacher

Area Requirements	87
Basic Conducting: MUS 335	2
Introduction to Research: MUS 414	3
Counterpoint: MUS 301	3
Orchestration: MUS 343	2
Advanced Music Literature:	15
Independent Study (Senior Project): MUS 481	6
Foreign Language	20

Applied Music	18
Electives	12
Plus either:	
Instrumental/Vocal Track	
Keyboard: MUS 155, 156, 157, 255, 256, 257	6
or	
Keyboard Track	
Keyboard: MUS 257	1
Secondary voice/instrument	5
Total	194

Degree Requirements—Music

Bachelor of Arts Degree

The Bachelor of Arts degree in music is designed for students who want to study music but do not necessarily plan a professional career in music. Students will get a much broader, more general education than students seeking a Bachelor of Music degree. Required courses are kept to a minimum. Consequently, students must work closely with an advisor in selecting course electives. For graduation, students must complete level III in the applied music concentration.

See General Education Requirements

General Education	56
Required Substitutions:	
Area IV: MUS 121, 122	4
Required Course:	
Area VI: CST 242	4
Departmental Requirements	64
Music Theory ¹ : MUS 101, 102, 103, 201, 202, 203	18
Sight-Singing ¹ : MUS 151, 152, 153, 251, 252, 253	6
Computer Applications: MUS 465	3
Music History ¹ : MUS 311, 312, 313	9
Applied music	12
Introduction to Research: MUS 314	3
Large Ensemble ²	6
Recitals: MUS 100	6

¹ These classes must be taken and passed in sequence

² As appropriate to instrument/voice and background, as determined by director of bands, director of choral studies, director of orchestral studies (as appropriate) in consultation with a student's applied teacher

Either:	
Keyboard Track	
Music electives	7
or	
Vocal/Instrumental Track	
Keyboard: MUS 155, 156, 157	3
Music electives	4
Other Requirements	

Research Methods	4
Foreign Language (at 202 level)	20
Electives (as appropriate) to a total of	192 hours

Music Honors Program

The Department of Music encourages students who have demonstrated superior academic ability to participate in the music honors program. In order to enter the program, students must be juniors or seniors with a cumulative 3.0 GPA and a 3.5 GPA in music. For additional information, students should contact the department chair.

Minor in Music

Music Theory: MUS 101, 102, 103	9
Sight-Singing: MUS 151, 152, 153	3
Music History ¹ : MUS 121, 122	4
Keyboard: MUS 155, 156, 157	3
Applied Music ²	3-6
Large Ensemble ³	6
Music Electives	6

Total	34-37
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¹ As part of General Education

² Three quarters

³ As appropriate to instrument/voice and background, as determined by director of bands, director of choral studies, director of orchestral studies (as appropriate) in consultation with a student's applied teacher

Philosophy

Professors Barr (chair), Irvine, Taylor
Associate Professors Farmer, Hough (Emeritus)
Assistant Professors Banks, Wilson

The philosophy major is designed to encourage clear and logical thinking. Philosophy develops students' ability for critical evaluation through analysis and increases students' cultural experience by acquainting them with the more important philosophic writings.

The 52 hour requirement in the major affords a great deal of flexibility; it enables students to employ numerous options in other disciplines to prepare for different professional objectives, while also developing a broad understanding of our society and culture. It is to the major's advantage to pursue courses in other fields, since philosophy, by its very nature, is interrelated with all disciplines. Many academic departments include, within their own curricula, courses in the philosophy of their disciplines. Furthermore, philosophical questions can arise during one's investigation of any specific field. Because of differences in student interests and the

ready availability of electives, each student follows an individualized program in consultation with an advisor. Such a program permits concentration in cognate fields and encourages exploration and self-discovery.

Because the required courses in philosophy are designed to emphasize basic issues confronting our civilization, the philosophy major is excellent preparation for those who seek a well-rounded liberal education; for those who intend to pursue further training in professional disciplines such as law, medicine, and theology; and for those who plan advanced study in philosophy.

Philosophy majors who have demonstrated excellent ability in philosophy courses may be eligible for the rigorous departmental honors program. Interested students may obtain further information from the departmental office.

Degree Requirements—Philosophy

Bachelor of Arts Degree

See General Education Requirements

General Education Requirements	56
Required Course:	
Area VI: Any approved Liberal Arts College Component course	
Departmental Requirements	52
Language and Research Methods Requirement	24–32
Electives and Related Courses	52–60
Total	192

Minor in Philosophy

The minor in philosophy is a perfect complement to majors in departments throughout the university. Historically, Wright State students studying pre-law, English, mathematics, psychology, pre-med, communication, music, religion, film, and art have taken numerous philosophy courses for their electives. In addition to providing a basic background in the history of philosophy and in logic, the minor allows students to design individualized concentrations in areas such as medical ethics, the philosophy of science, applied philosophy, the philosophy of art and culture, the philosophy of law, or political philosophy.

The minor may be earned by completing the following requirements:

Philosophy Minor Requirements	32*
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Required Courses	16
PHL 215, 223, or 323	4
PHL 301, 302, and 303**	12
Electives	16

* 20 credit hours minimum of 300–400 level courses

**Or approved substitutions in the history of philosophy

Political Science

Professors Fitzgerald, Funderburk, Green, Nord, Schlagheck (chair), Thobaben (Emeritus), Walker (Emeritus)

Associate Professors Adams (Emeritus), Anderson, Feldmeier, Luehrmann, Sirkin, Snipe

Assistant Professors Atkinson, Kantha

Instructor Hussain

Students of political science study governments: how they evolve, why they exist, the forms and social functions they assume, why they change, and who controls them. To understand governments, students of political science also study politics: how people behave in their relationship to government, what they do to influence government, and how government attempts to influence people's behavior and beliefs about what it does. Students of politics also must appreciate how cultural, historical, and economic forces affect the evolution of governments and mass political behavior.

The Bachelor of Arts program in political science focuses on three areas of instruction:

1. American government, including legislative and executive institutions, political parties and interest groups, public administration, public opinion and elections, and state and urban government; and public law, including constitutional law, criminal justice, civil liberties, and environmental law
2. International relations and comparative politics, including American and post-Soviet foreign policy; European and Latin American governments; Middle East, Russian, and Asian governments; African politics; national security policy; terrorism; international political economy; and developing political systems
3. Political philosophy, theory, and analysis, including feminist theory, political philosophy, political ideologies, the history of political thought, and political analysis; and quantitative methods of political research

Student Internships and Applied Politics

Internships for political science majors may be arranged with area state legislators, congressional district offices, county prosecutors and public defender offices, Dayton-area metropolitan governments, and governmental and policy advocacy agencies and organizations in Washington, D.C. These internships complement classroom work and give students the chance to apply knowledge and develop valuable interpersonal and career-related skills. The department sponsors student participation on our nationally recognized, award-winning team attending the annual National Model United Nations meeting in New York.

Degree Requirements—Political Science

Bachelor of Arts Degree

See General Education Requirements

General Education Requirements	56
Required Courses:	
Area III: PLS 200	
Area VI: Any approved Liberal Arts College	
Component course	
Foreign Language and Research Methods Requirement	24–32
Departmental Requirements	60
Core Requirements	8
Prerequisite: PLS 212, 222	
Area Requirements	20
Prerequisite: core requirements	
1. American Government (two courses, eight hours)	
2. International and Comparative Politics (two courses, eight hours)	
3. Political Philosophy, Theory, and Analysis (one course, four hours)	
Advanced Department Electives	32
Prerequisite: core requirements	
Thirty-two quarter hours, chosen in consultation with a departmental advisor and distributed among 300- and 400-level courses, with no fewer than four hours at the 400 level	
Related Major Requirements from Outside the Department	21–22

There are two options.

Option 1

Option 1 must be completed by all political science majors who do not choose and complete a departmentally approved alternative of at least 21 credit hours.

One English course from among the following:

ENG 240, 330, 333, or 344	3–4
HST 211 and 212	8
EC 204 and 205	8
GEO 201 or 202	4

Option 2

In all cases, Option 2 must have advisor approval and requires at least 21 credit hours. Option 2 may be the international business minor for liberal arts majors, a minor or second major in another field, or a set of courses from another discipline with a clear focus and coherence reflecting the individual's career or other interests. Transfer students from Sinclair Community College may apply LAP credits toward "legal affairs" related requirements. Other transfer credits also may be applied toward completion of the requirement.

Free Electives	22–31
Total (minimum requirement)	192

Minor in Political Science

Students majoring in other fields, particularly other social sciences, may benefit from a minor in political science. The minor is especially helpful to students in journalism, business students interested in international business and finance, students in education, and anyone pursuing a career where a basic understanding of political institutions and processes would strengthen other program interests. Completion of the approved minor is certified on students' official transcript upon graduation. The minor may be fulfilled by completing the following requirements.

Political Science Minor Requirements	36
Core Requirements	12
Prerequisite: PLS 200, 212, 222	
Area Requirements	12
Prerequisite: Core Requirements	
1. American Government (one course, four hours)	
2. International and Comparative Politics (one course, four hours)	
3. Political Philosophy, Theory, and Analysis (one course, four hours)	

Advanced Political Science Electives

Twelve hours, distributed among 300- and 400-level courses chosen in consultation with a departmental advisor

Departmental Honors

Majors in political science may earn departmental honors by completing the following requirements:

1. Achieving a minimum GPA of 3.4 in all political science course work and in overall course work
2. Attaining senior standing
3. Completing the Model United Nations Seminar or a comparable limited enrollment advanced course with a grade of A or B (see the department chair for more information), or

By completing these requirements and the eight-course Honors Program requirement, majors may earn the designation "University Honors Scholar" upon graduation. Interested students should contact the University Honors Program for more information.

National Honor Society

Majors in political science may become eligible for membership in Theta Zeta Chapter of Pi Sigma Alpha, the national political science honor society. Interested students should see the department chair for more information.

Religion

Professors Barr (chair), Griffin

Associate Professors Chamberlain, Verman

Assistant Professor Halabi, Stoker

Instructor Kraus

The Bachelor of Arts program in religion is comprehensive and nonsectarian in its approach and shares with other humanities disciplines the goal of understanding ourselves and our world. Since religion is a powerful force in culture, it has been heavily involved in most of the world's history, literature and art, and social institutions. The academic study of religion emphasizes the study of various religious traditions, their history, thought, social context, and moral and ritual expression.

A major in religion requires 14 courses within the department. Each student is assigned a departmental advisor who helps select courses. Students need to complete the sequence REL 205, 206, and 207 early in their program and take REL 493 near the end of their studies. In addition, a religion major requires one course from each of the following six areas: religion and diversity, American religion, biblical studies, ethics or philosophy of religion, eastern religions, and western religions. Four elective courses, drawn from these areas or elsewhere in the department, complete the

requirement of 14 courses. At least six courses must be at the 300 level or above.

Religion majors must also complete 28 hours of related courses selected from a wide range of disciplines related to their special interests. Students should consult with their departmental advisor in selecting these. Students will also be required to demonstrate or develop proficiency in a foreign language related to their area of specialization and fulfill a research methods requirement.

The department also provides a dual major (11 courses) and a minor (8 courses). See the department chair for complete details.

Graduates with a degree in religion choose employment in a wide variety of professions, including teaching, social services, counseling, law, ministry, and medicine. Technical training required for these fields usually follows the baccalaureate program, but students are encouraged to choose electives that support their career interests as soon as possible. Career planning information is available for religion majors.

Degree Requirements—Religion

Bachelor of Arts Degree

See General Education Requirements

General Education Requirements	56
Required Course:	
Area VI: Any approved Liberal Arts College Component course	
Departmental Requirements	56
Fourteen courses to be chosen from:	
REL 205, 206, 207	12
REL 493	4
Six additional courses, one from each area:	24
American religion	
Biblical studies	
Eastern religions	
Ethics or philosophy of religion	
Religion and diversity	
Western religions	
Religion electives (4 courses)	16
At least 24 hours must be at the 300 level or above.	
Foreign Language and Research Methods Requirement	24–32
Approved courses related to area of specialization	
Electives	48–56
Total (minimum requirement)	192

Religion Honors Program

The Department of Religion encourages superior academic work through an honors program. Honors students take advantage of special seminars and discussion sections, departmental reading courses, and other opportunities. Relatively small classes also make it possible to work more closely with professors.

Juniors and seniors with a 3.0 cumulative GPA and a religion major or adequate background in religion may participate in the departmental honors program. Interested students should contact the chair of the department.

Minor in Religion

A minor in religion enhances the student's preparation for business, educational, and other professional fields. It also promotes a student's selfunderstanding and cultural awareness and enriches any college education. To earn a minor in religion, students fulfill the following requirements:

Religion Minor Requirements	
REL 205, 206, 207	9
Five additional courses in religion*	17–20
Total	26–29

*At least 12 hours must be at the 300 level or above.

Selected Studies

Director Sharon H. Nelson

Program Committee Coordinator Beth A. Klaisner

The program in selected studies allows students to pursue a self-designed course of study. It is intended for students with a definite educational objective that is not met by the majors presently offered by the College of Liberal Arts. While the program is free from several traditional requirements, students must meet other requirements and procedures to obtain the degree.

Students are eligible for the program after they complete 45 credit hours. With the help of program sponsors, students formulate a contract outlining their study goals and reserving at least 48 credit hours for core courses that help accomplish those goals. The contract is evaluated and approved by the program committee.

In addition to completing the core and meeting all other university and college requirements for graduation, students must successfully complete at least 60 credit hours in courses numbered 300 or above; eight to 16 credit hours must be earned in LA 490, Senior Project in Selected Studies. Students

must submit a proposal for the project to the program committee for approval before the beginning of their senior year.

Students interested in selected studies should see the committee coordinator for more information about the program.

Degree Requirements—Selected Studies

Bachelor of Arts Degree

See General Education Requirements

General Education Requirements	56
Required Course:	
Area VI: Any approved Liberal Arts College Component course	
Core Courses	48
Senior Project (LA 490)	8–16
Foreign Language and Research Methods Requirement	24–32
Electives	40–56
Total (minimum requirement)	192

Ordinarily no more than 45 hours in one department may be counted toward the degree.

Bachelor of Fine Arts Degree

See General Education Requirements

General Education Requirements	56
Required Course:	
Area VI: Any approved Liberal Arts College Component course	
Core Courses	48
Senior Project (LA 490)	8–16
Electives	72–80
Total (minimum requirement)	192

Ordinarily no more than a combination of 100 hours of course work may be taken in the Departments of Art and Art History, Music, and Theatre, and no more than 68 hours in any one department may be counted toward the degree.

Social Science Education

Director Carol Engelhardt Herringer

Students intending to teach secondary-level social studies in the Ohio public school system must first earn the Bachelor of Arts degree in social science education, a multi-disciplinary major including work in all social science disciplines. Graduates of the undergraduate program will then need to satisfy requirements of the Professional Educators Program through coursework for the Master of Education degree in the College of Education and Human Services. Upon completion of the academic content and professional teaching requirements, students are eligible to seek licensure as integrated social studies teachers from the Ohio Department of Education.

Admission to the Professional Educators Program includes a minimum undergraduate GPA of 2.7 and C or better grades in all undergraduate content courses, among other requirements. Throughout the undergraduate program, students should consult regularly with an advisor to ensure they are meeting requirements and standards necessary for admission to the Professional Educators Program.

Degree Requirements—Social Science Education

Bachelor of Arts Degree

See General Education Requirements

General Education Requirements 52

Required Courses:

Area III: EC 204 and 205

Area VI: Any approved Liberal Arts College Component course

Pre-Education Courses 16

ED 221, 223, 301, 303, EDS 333

Major Content Courses 100

HST 211, 212 8

American history (300/400 level) 8

European history (300/400 level) 4

Non-Western history (300/400 level) 8

History electives (300/400 level) 8

GEO 201, 202, 203, 343 (any three courses) 12

PLS 212, 222 8

Political science electives (four courses) 16

Choose from PLS 323, 331, 342, 343, 351, 440
SOC 201 4
Sociology elective (300/400 level) 4
PSY 110, 351 8
EC 204, 205 8
Cultural diversity course 4

Foreign Language and Research Methods Requirement 24–32

Electives 0

Total (minimum requirement) 192

Social Work

Professors Brun (chair)

Associate Professors Baker, Myadze

Assistant Professors Kinsel, Rogers, Twill

The Bachelor of Arts program in social work prepares students for beginning employment in social work or for graduate study. Students considering social work as a career should be interested in people of widely varying ages, abilities, and backgrounds; these students must also be disciplined, emotionally stable, and intellectually creative. Social workers typically find employment in adult daycare family services, children's services, home health care for older adults, hospitals, mental health centers, nursing homes, and probation and parole boards. While most social workers perform direct practice duties, others are employed as outreach workers, community organizers, and administrators in public, voluntary, and for-profit agencies.

The baccalaureate program is fully accredited by the Council on Social Work Education.

Requirements for admission to the social work program include completion of SW 270, 271, and 272 with a grade of C or higher; an overall GPA of 2.25 or higher; related social science courses; human biology courses; and either the writing portion of the Pre-Professional Skills Test or at least two General Education courses that are writing intensive.

Applications are currently accepted two times per year: March 1 and November 1. Admissions to the social work major are selective. Not all persons meeting the minimum requirements can be accepted into the major. Students should contact the department chair if they have questions about the application criteria.

To graduate with a social work degree, a grade of C or higher is required in all social work courses.

Degree Requirements—Social Work

Bachelor of Arts Degree

See General Education Requirements

General Education Requirements	56
Required Courses:	
Area III: EC 200, PLS 200, PSY 105	
Area V: BIO 107	
Area VI: SW 272	
Departmental Requirements	56
SW 270, 271, 375, 380, 470, 481, 482, 483, 484, (487, 488, 489-field practicum), 490, 491	
Related Requirements	12
COM 104	
PSY 341	
SOC 200	
SW 291 (Descriptive Statistics) required	
Foreign Language and Research Methods Requirement	24–32
Electives	36–44
Total (minimum requirement)	192

Social Work Honors Program

The Department of Social Work recognizes superior achievement by social work majors with an honors program that allows students to graduate with the designation of honors in social work. Students in the program have an opportunity to pursue original research and analysis that goes beyond the requirements of their course work.

Junior and senior university honors students with a minimum 3.0 overall GPA and a 3.5 average in social work may apply. Students must initiate and successfully complete an honors project. The department suggests that honors students take at least one UH 400 interdisciplinary seminar before starting their honors project.

Certificate in Gerontology

The certificate in gerontology program offers students academic preparation and practical experience in the growing field of gerontology:

- Knowledge about the aging process (physical, social, and psychological) throughout the life span
- Knowledge about current social and health policies, as well as programs developed to meet the increasing needs of older people

- Skills to work as a team member in an interdisciplinary setting designed to help older people
- Sensitivity about the values necessary to work with older people

Contact Dr. Beth Kinsel, Gerontology Certificate Coordinator, for more information.

Child Welfare Workforce Professional Education Program

This partial tuition reimbursement program prepares students to enter the field of public child welfare upon graduation with a degree in social work. The requirements of the program include passing two required courses on child welfare, completing the senior practicum in a public child welfare agency, and gaining employment in a public child welfare agency for at least one year after graduation.

Contact the Child Welfare Workforce Professional Education Program coordinator at (937) 775-2585, for more information.

Sociology and Anthropology

Professors Ballantine, Cargan (Emeritus), Islam (Emeritus), Melko (Emeritus), Riordan (chair)

Associate Professors Bellisari, Bergdahl, Durr, Koebernick (Emeritus), Orenstein, Shepelak, Steele, Steinberg (WSU–Lake Campus)

Assistant Professors Kim, Lahm, Norris, Owens, Small

Instructors Eguaroje, Guzzo, Jahanbegloo, Stremlin

Sociology

Sociology is concerned with social relations: how people relate to each other as individuals, in families, or in groups; how they communicate in business and governmental situations; and how their behavior is judged as socially acceptable, deviant, illegal, or immoral. The Bachelor of Arts program in sociology trains students to observe and measure these interactions, predict likely outcomes from certain situations, and determine how we can develop programs to change behavior for the good of individuals and society.

Sociology graduates typically find careers that involve dealing with people, often working for large businesses or organizations, or in community service, public relations, teaching, or research. Sociology majors are required to take five or more upper-level courses designed to develop their writing skills and thinking capacity.

Degree Requirements—Sociology

Bachelor of Arts Degree

See General Education Requirements

General Education Requirements	56
Required Courses:	
Area III: SOC 200	
Area VI: Any approved Liberal Arts College	
Departmental Requirements	63
SOC 201, 204, 300, 301, 303, 306, 406, 442	30
Any two of the following:	
SOC 320, 340, 345, 360, 380	8
300- and 400-level SOC electives (minimum)	25
Related Electives	12
Twelve hours in any single approved discipline at the 300-400 level.	
Foreign Language and Research Methods Requirement	20–28
Electives	33–41
Total	192

Sociology Honors Program

The department encourages qualified students to conduct independent research through the department's honors program. Students are eligible for the program if they have a minimum GPA of 3.0 overall and 3.5 in sociology. Departmental honors are awarded at graduation. Through SOC 490, students must complete an honors project under the guidance of an honors advisor. Interested students should contact the departmental office for further information.

Minor in Sociology

The minor in sociology allows students to supplement their education in many fields. Students take SOC 306 (Sociological Methods) and five courses at the 300-400 level, four of them from one of the following concentrations: social organizations; deviance/criminology; social change; family/socialization. The minor requires a total of 28 credit hours.

Anthropology

Anthropology studies the behavior and biology of the human species, both current and past, often drawing on information from the social and biological sciences. The Bachelor of Arts program in anthropology focuses on three areas: cultural anthropology, archaeology, and physical anthropology.

Cultural anthropology exposes students to ways of life, belief systems, and value systems that differ from their own, examining the ways in which cultures deal with universal human problems, from the basic needs of food and shelter to the metaphysical questions of existence. Typical subjects for cultural anthropology include ecology and subsistence techniques, economics, political systems, religion, and cultural change.

Archaeology deals with cultures of the past. Archaeologists search for and study the material remains of past cultural activity and try to reconstruct the behavior patterns, technology, and social customs of people who no longer exist.

Physical anthropology focuses on the biological aspects of the human species. Physical anthropologists study the fossil evidence to determine how evolution has influenced human behavior and biology. Studies of biological variability in modern populations are also part of this discipline, since many physical differences among populations are the result of their having adapted to different environments.

Anthropology majors should normally complete the 200-level introductory courses before taking 300- or 400-level courses.

Degree Requirements—Anthropology

Bachelor of Arts Degree

See General Education Requirements

General Education Requirements	56
Required Courses:	
Area II: CST 241	
Area VI: Any approved Liberal Arts College	
Component course	
Departmental Requirements	56
ATH 241, 242, and 448 or 468	12
Cultural electives	12
Archaeology electives	12
Physical electives	8
Electives in the major	12
(ATH 369, Field School in Archaeology, may count for no more than six hours toward major requirements.)	
Related Requirements	12

Selected from economics, geography, history, political science, psychology, sociology, and certain courses from biological sciences, geological sciences, and communication

Foreign Language and Research Methods Requirement	24–32
Electives	36–44
Total	192

Anthropology Honors Program

The department encourages qualified students to conduct independent research through the department's honors program. Students are eligible for the program if they have an overall minimum GPA of 3.0 and an average of 3.5 in anthropology by the end of their junior year. Departmental honors are awarded at graduation. Through ATH 492, students are required to complete an honors project under the guidance of a faculty honors advisor. Interested students should contact the departmental office for further information.

Minor in Anthropology

The minor in anthropology provides a cluster of courses that form an introduction to the subfields of anthropology. It is intended for students in other majors who wish to supplement their study with the perspectives unique to anthropology.

The minor in anthropology consists of 30 credit hours. This includes 10 hours in three introductory courses (ATH 241, 242, and CST 241) that expose students to the subfields of cultural and physical anthropology and archaeology. Upper-level courses are structured to allow students to examine the content of each subfield in greater depth. The required course in theory can be taken in either archaeology (ATH 468) or cultural anthropology (ATH 448).

Anthropology Minor Requirements

ATH 241, 242; CST 241	12
One course from Cultural Anthropology	4
One course from Archaeology	4
One course from Physical Anthropology	4
One theory course (ATH 448 or 468)	4
One course: selective (any area)	4
Total	32

Students are expected to maintain a 2.0 overall GPA.

Theatre, Dance, and Motion Pictures

Professors Bassett (Emeritus), Blair, David, Derry, Klein, McDowell (chair), Reichert
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The Department of Theatre, Dance, and Motion Pictures is devoted exclusively to the training and education of undergraduate students in the areas of dance, motion pictures, and theatre. These programs lead to the Bachelor of Arts and the Bachelor of Fine Arts degrees.

The Department of Theatre, Dance, and Motion Pictures is empowered by the Ohio Revised Code to require particular preliminary training or talent for admission to specific programs, and each of the five B.F.A. degree programs has specific criteria for admission to each level of training. Students in all areas must earn a minimum GPA of 2.0 by the end of the freshman year to continue in a theatre arts major. Students who wish to be admitted as majors in acting, acting/musical theatre, or dance must successfully pass an audition or interview. Transfer students are admitted into B.F.A. programs on the basis of a successful audition, interview, or portfolio presentation. The department has an open admissions policy for students wishing to major in the B.A. programs in theatre studies and motion pictures history, theory, and criticism, and B.F.A. programs in design/technology and motion pictures production.

All students who return after an absence of four or more consecutive quarters must reapply to the faculty for readmission to the program, and at the discretion of the faculty they may be required to satisfy program requirements in effect at the time of readmission. Details of the admission and retention policy are detailed in the Department of Theatre Arts Student Handbook.

Dance

The dance program is designed to train students for professional careers in dance performance. This Bachelor of Fine Arts Degree combines dance technique classes with theatrical and musical training to prepare students to succeed in their specialized field of concert dance or musical theatre.

The foundation of the dance curriculum is a daily class in ballet technique with additional training in modern, jazz theatre dance, and tap. Classes in choreography, dance pedagogy, dance history, and pointe/men's class are required. Seniors must complete an individually choreographed senior dance project. Required courses outside of dance include studies in theatre, acting, music theory, music literature, and singing.

All students must successfully audition for admission into the dance program. Only selected students who demonstrate technical skill and artistry and a promise of high achievement in dance are accepted. All transfer students are required to audition for acceptance and placement. To remain in the dance program, students must demonstrate continual growth as judged by the faculty and maintain a minimum 2.5 GPA in all dance courses and a 2.0 GPA overall. Dance faculty evaluate all majors at the end of each academic year; students must earn a positive recommendation before they can enroll for the next level of training. Exceptional dance majors are selected to study and to perform as members of Dayton Ballet II or Dayton Contemporary II. These dancers are eligible for scholarships from the Department of Theatre Arts.

Dance majors are required to audition for the Wright State Dance Ensemble. Other auditions may be required by the dance faculty for other performances, including lecture-demonstrations, choreographic presentations, dance tours, and dramatic and musical productions. Dance majors must maintain a minimum GPA of 2.0 to be eligible for graduation.

Degree Requirements—Dance

Bachelor of Fine Arts Degree

See General Education Requirements

General Education Requirements	56
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Required Courses:

Area IV: TH 214

Area VI: Any approved Liberal Arts College

Component course

Departmental Requirements	108
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DAN 101, 102, 103, 111, 112, 113, 201, 202, 203, 211, 212, 213, 251, 252, 253, 301, 302, 303, 311, 312, 313, 321, 322, 323, 341, 342, 343, 371, 372, 373, 399 (six hours), 401, 402, 403, 411, 412, 413, 421, 422, 423, 491, 492, 493

Two hours from the following:

DAN 207, 208, 209; 307, 308, 309; 407, 408, 409

Two hours from either DAN431 or 432

Two hours from the following:

TH 238, 239, approved HPR 100 and HPR 101 courses, other courses as approved by advisor

Related Requirements	18
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TH 147, 148, 149

TH 105, TH 100 (five hours)

MUS 114, 118

Electives	10
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Total	192
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Motion Pictures

The program in motion pictures provides a study of film as a fine art. The curriculum offers two options: the Bachelor of Fine Arts degree in theatre with a concentration in motion pictures production and the Bachelor of Arts degree in theatre with a concentration in motion pictures history, theory, and criticism.

The B.F.A. Program

The B.F.A. program follows an open admission policy for only the first quarter; thereafter, students must progress according to department guidelines in order to continue. Prospective motion pictures B.F.A. students must take MP 131 the fall quarter of their freshman year and receive an A or B in order to proceed to any other classes as a major. Students successful in MP 131 should register for MP 231 in the winter quarter. In order to be eligible to take MP 180 and MP 232 in the spring quarter, students must have completed 24 university credit hours, received a C or higher in MP 231, and achieved an overall minimum GPA of 2.25 by the end of winter quarter. After completion of the spring quarter, prospective B.F.A. students must submit a Sophomore Audition Application and be officially accepted as a film major in order to continue into the sophomore year. Note that a limited number of students will be invited to enroll into the second year and become B.F.A. majors. Further details regarding evaluation standards can be found in the Theatre Arts at Wright State Booklet, published by the department.

At the end of the sophomore year, B.F.A. students must audition successfully for entrance into the junior and senior years of the program. This process, called the Junior Audition, is a comprehensive process involving multiple meetings with faculty and review of all work done in the program. Before students are accepted into the junior year, they must have a minimum 2.5 GPA in all film history/theory classes and a 2.25 overall GPA. Students must also have completed six film history/theory courses, not including MP 131, and including MP 232 and 233, and have earned at least 85 credit

Departmental Requirements	72
MP 131, 180, 231, 232, 233, 281, 282, 283, 334, 381, 382, 383, 436, 481, TH 222	51
Additional courses in motion picture history, theory, and criticism to be chosen from MP 331, 332, 333, 435	21
Related Requirements	23–27
ART 207, 258, 358 or 359	
MUS 114, 121 or 214	
Two of the following:	
EDT 455, COM 152, 253, 256, 360, 365 or appropriate substitute (consult advisor for alternatives)	
Electives	37–41
Note: There is no limit on the number of electives from theatre.	
Total	192

Theatre

Students who wish to study theatre choose from professional programs leading to the Bachelor of Fine Arts degree or to the Bachelor of Arts degree in theatre studies. The professional programs are acting, acting-musical theatre, theatre studies, and design/technology/stage management.

Admission for the acting and acting-musical theatre programs is by audition. The department has an open admissions policy for first-term freshmen in the design/technology/stage management and theatre studies programs. Transfer students must audition or interview for all B.F.A. programs. Each B.F.A. program has set criteria for selectively retaining students in the programs. These include a requirement that students earn a GPA of at least 2.0 to continue in the B.F.A. programs; most of the programs require a higher minimum GPA for graduation. The policies are spelled out in the following sections and in the Theatre Arts Student Handbook, which is issued annually. Students are required to consult quarterly with an academic advisor.

Degree Requirements—Acting and Acting-Musical Theatre

Bachelor of Fine Arts Degree

The professional acting and acting-musical theatre programs are an intensive, four-year progression of studies in acting, voice, movement, dance, and singing. Acting majors may choose an emphasis in musical theatre. Because courses in

the acting program follow a set sequence, students are generally admitted only in the fall quarter. The Professional Actor Training Program is limited by audition to only selected, superior students who show promise of high achievement in acting and/or musical theatre. Retention in the Professional Actor Training Program is determined by periodic review. Students are retained in the program based on their growth and development as judged by the acting faculty.

To be retained in the program, all acting and acting-musical theatre students must earn a grade of C or better in required departmental and related courses for the major, with the exception of TH 102, 120, and 222. If a student does not receive a C or better in these required courses, the student may not take the courses a second time. However, students may retake TH 372, 373, 380, 381, and 382 (literature and history courses) for a second time to receive the required grade of C or better. Students not receiving a grade of C or better in all required departmental and related courses (with the above exceptions) will not be retained in the program or continue in the acting or acting-musical theatre emphasis.

Acting

See General Education Requirements

General Education Requirements	56
Required Courses:	
Area IV: TH 214	
Area VI: TH 250	
Departmental Requirements	98
TH 102, 115, 116, 117, 120, 144, 145, 146, 215, 216, 217, 222, 240, 241, 242, 244, 245, 246, 254, 255, 256, 315, 316, 317, 340, 341, 342, 344, 345, 346, 347, 354, 355, 356, 380, 381, 382, 413, 440, 441, 442, 444, 445, 454, 455	
Related Requirements	9
DAN 111, 112, 113	
Electives	29
Total	192

Acting/Musical Theatre

See General Education Requirements

General Education Requirements	56
Required Courses:	
Area IV: TH 214	
Area VI: TH 250	

Departmental Requirements	93
TH 102, 106, 107, 108, 120, 144, 145, 146, 157, 158, 159, 222, 240, 244, 245, 254, 255, 256, 257, 258, 259, 337, 338, 339, 344, 354, 355, 356, 357, 358, 359, 372, 373, 380, 437, 444, 457, 458, 459	
Related Requirements	31
DAN 104, 105, 106, 121, 304, 305, 306, 207 or 307, 208 or 308, 209 or 309, 331, 332, 333, plus six credits from 300- or 400-level dance of choice	
Electives	12
Total	192

Degree Requirements—Design/Technology/Stage Management

Bachelor of Fine Arts Degree

The program in design/technology/stage management prepares students for careers as designers, technicians, and stage managers in the professional theatre. During the junior year, students begin a concentration in either design or technology in the fields of costumes, scenery, lighting, sound, or properties. Students interested in concentrating in stage management do so beginning in the freshman year. All design/technology majors must present their portfolio for an evaluation at the end of each year of study. Students are retained in the program and accepted into the sophomore year of study based on maintaining an overall GPA of 2.0, continual growth as determined by the faculty, and successful portfolio evaluation at the end of each year of study. Before students can begin their junior or senior year, they must have a minimum 2.5 GPA in all design and technology classes and a 2.25 overall GPA. Students must also continue to show steady growth in their craft. They must demonstrate leadership skills and self-discipline and show promise of benefiting from continued training. Any student whose overall GPA falls below 2.25 will be suspended from production, graphics, and design classes and from using facilities until the GPA is raised. The faculty members reserve the right to totally suspend from a program any student who does not fulfill these continuing requirements. Students may be reinstated if the requirements are subsequently fulfilled. Students not performing in their academic or production assignments will be dropped from the program.

See General Education Requirements

General Education Requirements	56
Required Courses:	
Area IV: TH 214	

Area VI: TH 250

Department Core Requirements	49
TH 102, 124, 125, 147, 210 (18 hours), 220, 224, 227, 229, 301, 380, 381, 382	
Related Requirements	49–76
One of the following concentrations:	
Technology Concentration (76 hours)	
TH 124, 125, 126, 225, 226, 228, 320 (18 hours); MP 131 (18 hours), 328, 329, 362, 420 (18 hours), 429 (six hours); and six hours chosen from TH 324 and 326	

Design Concentration (76 hours)

TH 124, 125, 126, 225, 226, 228, 320 (12 hours); MP 131, 328, 329, 324, 325, 326, 362, 376 (six hours), 420 (six hours), 424, 425, 426, 429

Stage Management Concentration (49-55 hours)*

TH 148, 149, 324, either 325 or 326, 350, 351, 410 (9-15 hours), 429; COM 102; CS 205; DAN 111; ENG 330; HPR 260; MUS 114

Electives	11–38
Total	192

* Recommended electives for students in the Stage Management Concentration are TH 131, 498 (12-15 hours), and COM 453.

Degree Requirements—Theatre Studies

Bachelor of Arts Degree

Theatre majors working toward the Bachelor of Arts degree combine the advantages of a liberal arts education with preparation for a career in theatre or theatre-related areas. The department encourages students to maintain a balance between theory and practice and among the various arts of the theatre, gaining insight and perspective by studying art, history, literature, music, philosophy, religion, and science.

Because of the strength of the theatre production program, the B.A. theatre studies student is in a particularly advantageous position to acquire a high level of practical as well as theoretical knowledge, a distinction not afforded theatre students in programs with lesser production emphases. The student is encouraged to diversify in a variety of disciplines; courses throughout the department as well as production opportunities are open to these students. The major in theatre studies is generally considered to be preparation for further study at the graduate level.

See General Education Requirements

General Education Requirements	56
Required Courses:	
Area IV: TH 214	
Area VI: TH 250	
Departmental Requirements	46–50
TH 102, 147, 148, 149, 222 (four hours), 380, 381, 382; MP 131	25
Additional electives chosen from TH 301, 304, 328, 329, 350, 351, 365, 375	9–10
Additional electives in theatre	12–15
Language and Research Methods Requirement	24–32
Electives	54–66
Total	192

Urban Affairs and Geography

Professors Oshiro, Levine

Associate Professor Dustin (chair), Killian, Subban, Wenning

Assistant Professors Johnson, Choudhury

Lecturer Lowrey

Urban Affairs

Urban Affairs is an interdisciplinary program offering a Bachelor of Arts or Bachelor of Science degree. Students learn about the urban environment as a complex system. They study theories and practices of urban development processes from an interdisciplinary perspective. The program develops core competencies that include quantitative and qualitative analysis, effective communications, systems thinking, and consensus building and teamwork. The program is designed to prepare students for junior- or entry-level positions in local government and nonprofit organizations or to embark on a graduate program.

Students must have at least a 2.3 GPA or receive a special waiver from the chair to be admitted to the major. Interested students may apply for admission after meeting college admission requirements. Majors are required to complete a common core of courses and a concentration in one of four areas: community development, criminal justice, public administration, or urban social/physical planning.

Urban Affairs students are required to participate in the department's internship program.

The internship is designed to complement class work and give students experience in the professional work environment. Students interested in the internship should contact the departmental coordinator of the program or their advisor. Students currently working in a related field may have the internship requirement waived.

For further information about the program and admission criteria and procedures, students should contact the Department of Urban Affairs and Geography.

Degree Requirements—Urban Affairs

Bachelor of Arts Degree

See General Education Requirements

General Education Requirements	56
Required Courses:	
Area II: CST 221	
Area VI: URS 200 or other approved Liberal Arts College Component Course	
Core Requirements	28
URS 311, 411, 492	12
Foundation Courses	20
URS 321, 345, 346, 450	16
<i>Urban Affairs Concentration</i> (Pick from concentrations below)	36–39
Additional Requirements PLS 210 or STT 264 and ENG 330 or 333	8
Foreign Language and Research Methods Requirement	32
Students should take URS 410 for the statistics requirement.	
Related electives: Electives should be selected in consultation with the student's departmental advisor to compliment the major and support the student's career goals.	
Total	192

Degree Requirements—Urban Affairs

Bachelor of Science Degree

See General Education Requirements

General Education Requirements	52
Required Substitution:	
Area I: MTH 228 (Replaces MTH 145)	
Required Course:	
Area II: CST 221	
Area VI: URS 200 or other approved Liberal Arts College Component course	
Departmental Requirements	68–71
Core Courses:	
URS 311, 411, 492	12
Foundation Courses:	16
URS 321, 345, 346, 450	
Urban Affairs Concentration (Pick from concentrations below)	36–39
Additional Requirements	
ENG 330 or 333	4
Research Requirements	21
MTH 228	5
PLS 210 and URS 410	8
CS 205, 206; GEO 343, 447, or 448	8
Related Electives: Electives should be selected in consultation with the student's departmental advisor to compliment the major and support the student's career goals.	48–51
Total	192

Criminal Justice Concentration—36 Credit Hours

This concentration meets the needs of students preparing for careers in crime prevention and law enforcement. Knowledge of law, the urban environment, psychology, and social relations provides a foundation for work in the criminal justice system. Employment may be found in various judicial, administrative, and police agencies at all levels of government and in private companies. In addition to required courses, students select elective courses that fit their unique career objectives. Prior to enrollment, students should discuss with their advisors which courses best fit their needs.

Required concentration courses include URS 420, PLS 436, 437 and 442, and 20 credit hours of department-approved courses.

Community Development Concentration—36 Credit Hours

Community development involves revitalizing, sustaining, and expanding urban areas. Such work requires an understanding of many of the principles found in planning, organizing, managing, policymaking, finance, economics, and physical development. The community development course series prepares students for careers as community developers in public, nonprofit, or grassroots organizations. Students should select courses that fit their unique career objectives, such as economic development, neighborhood development, and social development. Prior to enrollment, students should discuss with their advisors which courses best fit their needs.

Required concentration courses include URS 415, 416, 418, EC 330 and 24 credit hours of department-approved courses.

Public Administration Concentration—36 Credit Hours

This area is suggested for students who wish to develop careers in management and administration in public agencies, including municipal, county, township, state and federal governments, and in nonprofit organizations. Courses in the public administration concentration focus on developing knowledge and skills needed to solve social, economic, and environmental problems. Prior to enrollment, students should discuss with their advisors which courses best fit their needs.

Required concentration courses include URS 446, 427, 470, and 24 credit hours of department-approved courses.

Urban Planning Concentration—39 Credit Hours

Urban planning prepares students for involvement in functions and processes such as infrastructure design, zoning, land use, code enforcement, pollution abatement, health, recreation, welfare, and social wellness. Municipalities, counties, public authorities, nonprofit organizations, and engineering and architectural firms employ planners. Prior to enrollment, students should discuss with their advisors which courses best fit their needs.

Required concentration courses include URS 317, 318, 418; URS 424 (Land Use law), GEO 365, 447, 448, and 8 credit hours in department-approved courses.

Urban Affairs Honors Program

The Urban Affairs Honors Program provides an opportunity for students to achieve their highest possible level of intellectual attainment. Urban Affairs majors of superior academic ability are invited to apply. A student may enter either upon successful application or at the invitation of the

Urban Affairs Honors Committee. To be eligible, the student must have a cumulative GPA of 3.5 or better in all course work completed at Wright State University. It is recommended that students apply to enter the program during their junior year and no later than the first quarter of their senior year.

Honors students are required to complete all urban affairs degree requirements, maintain a cumulative GPA of 3.5 in all course work, complete URS 411 (senior seminar) with a grade of A, defend orally the seminar paper to a committee composed of the URS Honors Committee and the faculty advisor for the seminar paper, and complete at least one University Honors Seminar.

Minor in Urban Affairs

The minor in Urban Affairs will benefit students who pursue careers related to urban administration, planning, criminal justice, or community development. Interdisciplinary urban affairs courses may be useful to majors in the social sciences, economics, business, education, and health care. Students taking the Urban Affairs Minor will study and analyze cities and urban regions as systems. They will gain an understanding of complex social, political, and economic forces shaping urban life.

Acceptance into the minor in urban affairs requires an overall 2.3 GPA. Students who do not meet GPA requirements may petition the chair of the department for a waiver from this requirement. Students should complete the social science General Education requirements prior to enrolling in minor classes. Students must maintain a minimum GPA of 2.0 in the minor.

Urban Affairs Minor Requirements	28
Required Courses:	16
URS 311, 317, 345, and 350	
Elective Courses:	12
Select three courses: URS 418, 423, 424, 425, 470, 475 or Legal Environment of Public Administration	

Nonprofit Administration Certification Program

Students interested in a rewarding career in the nonprofit sector should consider the Nonprofit Administration Certificate Program. Urban Affairs offers the certificate through American Humanities (AH), a national alliance of colleges, universities, and nonprofit organizations. The purpose of the program is to prepare undergraduate students for management positions in the nonprofit sector. The AH Nonprofit Administration Certificate Program is open to students pursuing a bachelor's degree in any major. To be accepted into the program, a student must have at least a 2.5 GPA, formally apply to the program, and successfully complete an interview with the AH Program Director. Wright State now

offers the AH Nonprofit Administration Certificate Program at the graduate level.

Students seeking the AH certificate must take up to 24 credit hours of approved course work, complete a 300-hour internship, participate in co-curricular activities, and attend the American Humanities National Management Institute Conference. Co-curricular activities include participation in the Wright State University's American Humanities Student Association and at least one annual retreat. For more information, please contact, The Department of Urban Affairs Studies and Geography, 225 Millett Hall, (937) 775-4451.

Public and Social Service Transportation Certificate Program

The Certificate in Public and Social Service Transportation emerges from a demand for individuals who have knowledge and skills specific to transportation administration. The certificate program will appeal to individuals currently working or plan to work in public/non-profit and social transportation services. Students will gain an understanding of transit administration, decision-making, intersectorial and interorganizational collaboration, organizational development, resource allocation, and accountability within the context of developing and operating transportation systems.

The certificate in Public and Social Service Transportation is open to all majors. To be accepted into the certificate program students must be of junior standing or higher and have earned at least a 2.5 GPA and completed Area I and III of the General Education Requirements.

Students are required to complete 24 hours of coursework: 16 hours of required courses and 8 hours of elective selected with the approval of the certificate program director. A transit internship is required but may be waived on a case-by-case basis by the program director and replaced by an approved course from the electives. Students are encouraged, but not required, to take GEO 455, Geography of Transportation. Students seeking the Certificate in Public and Social Service Transportation should contact the Chair of the Department of Urban Affairs and Geography, 225 Millett Hall, (937) 775-4451.

Comparative Development Certificate Program

Global change introduces new challenges for development professionals. The Comparative Development Certificate Program adopts an international and interdisciplinary approach to understanding governance, policy making, economic development, and transsectorial relationships. Courses focus on core competencies in management and administrative principles, techniques for communicating vision and mission, and public sector strategies for organizing and implementing continuous improvement to enhance the competitiveness of metropolitan regions.

This certificate program will be attractive to individuals planning careers in the public sector, in private and nonprofit development agencies, and in private sector positions involving relations with metropolitan governments. Students must meet the following qualifications to be admitted in the certificate program:

- Reached junior standing
- Completed Areas II, III, and IV of the General Education requirements
- Declared a major or a concentration in public administration, political science, business, or communication
- Achieved a foreign language proficiency of at least 202 level
- Earned a 3.0 grade point average or better

Students complete 23 hours of approved coursework. Required courses count for eleven hours and elective courses twelve hours. Course equivalencies may be considered for students studying abroad or for special international programs. Students seeking the Comparative Development Certificate should contact the chair of the Department of Urban Affairs and Geography, 225 Millet, (937) 775-4451.

Geography

Geography is the study of the location and interrelationships of human and physical phenomena on the earth's surface. Because of its emphasis on spatial organization and distribution of these phenomena, geography has a broad cross-disciplinary base. Such topics of study as cartography, climatology, landform analysis, photogrammetry and remote sensing, settlement theory, spatial interaction, and urban morphology indicate the breadth of contemporary geography. The undergraduate major in geography includes the study of cultural, economic, physical, and regional geography, as well as cartography, quantitative methods, and field work. Backgrounds in the natural and social sciences, humanities, statistical methods, and computer programming are useful to the geography major.

The geography program allows students to select a curriculum best suited to their particular interests. Geography majors select a program leading to either a Bachelor of Arts degree or Bachelor of Science degree.

The Bachelor of Arts degree in geography focuses on examining the processes of formation and the characteristics of the cultural landscape. Students select an area of study from physical geography, resource analysis land management, or economic geography.

The Bachelor of Science program in geography emphasizes technical skills and logic. Courses in physical, economic, and social geography and

in cartography, remote sensing, and geographic information are emphasized in the program. These courses are complemented by courses in mathematics, philosophy, and computer science.

Geography may be selected as an academic major, as a secondary teaching concentration in a social science or earth science program, or as part of an elementary teaching major. Students majoring in geography may qualify for licensure at the secondary level by meeting the minimum requirements in professional education courses for licensure by the state of Ohio. Because of sequential requirements and prerequisites, students are strongly urged to consult with a geography advisor before registering. Geography majors may participate in the department's internship program. The internship is designed to complement geography students' class work and gives them experience in the actual work environment. Students interested in the internship should contact the departmental coordinator of the program or their advisor.

Degree Requirements—
Geography

Bachelor of Arts Degree

See General Education Requirements

General Education Requirements	56
Required Courses:	
Area II: CST 221	
Area VI: URS 200 or other approved Liberal Arts College Component Course	
Core Requirements	30
GEO 201, 202, 203, 365, 370, 385, 486	
Departmental Major Requirements	36
Physical: GEO 322, 430 , 431, 432	12
Economic-Social: GEO 340, 353, 375, 455	12
Skills: GEO 343, 361, 362, 445, 446, 447, 448, 463	12
Course should be selected with the student's Geography advisor.	
Related Electives	38
Electives should be selected in consultation with the student's departmental advisor to complement and support the student's career goals.	
Language and Research Methods Requirement	32
The department recommends students take the following courses that meet the requirements: CS 205 or 141; PLS 210 or STT 264; PHL 215, 471, or 472	
Total	192

Degree Requirements-Geography

Bachelor of Science Degree

See General Education Requirements

General Education Requirements	52
Required Substitution:	
Area I: MTH 228 (replaces MTH 145)	
Required Course:	
Area II: CST 221	
Area VI: URS 200 or other approved Liberal Arts College Component course	
Departmental Core Requirements	30
GEO 201, 202, 203, 365, 370, 385, 486	
Departmental Major Requirements	36
Physical: GEO 322, 430, 431, 432	12
Economic-Social: GEO 340, 353, 375, 455	12
Skills: GEO 361, 362, 445, 446, 447, 448, 463	12-14
Related Electives	45
Electives should be selected in consultation with the student's departmental advisor to complement the major and support the student's career goals	
Research Requirements	29
MTH 228	5
STT 264, 265	8
PHL 216, 471, or 472	8
CS 141, 142, 205 or 300	8
Total	192

Geographic Information Science Certificate Program

Geography provides a certificate program in geographic information science. Included is a group of five courses exposing participants to the latest developments in data collection and analysis techniques, aerial and space cameras and sensors, and computer mapping procedures. Upon completing these courses, each participant must present a portfolio of materials for faculty review and complete an oral review of his or her work with the faculty.

Students interested in the certificate program should contact the Department of Urban Affairs and Geography, 225 Millett Hall, (937) 775-4451.

Geography Honors Program

The geography honors program allows superior students to work on a geographic problem of their own choosing. Applicants must be majors in geography, have senior standing with 36 hours of geography courses to their credit, and meet certain minimum GPAs. Candidates are required to complete an honors project under the direction of a

geography faculty member. Successful completion of the project, including written and oral project reports, carries four academic credits and entitles students to graduate with honors in geography. Geography honors students are encouraged to participate in the University Honors Program; interested students should contact the departmental coordinator of the program.

Minor in Geography

The minor in geography is designed for students in other disciplines who wish to supplement their knowledge and skills with geographic analytical skills and perspectives. A minimum GPA of 2.5 is required in the minor.

Students complete 32 credit hours of approved course work. The course requirements for a minor in geography are as follows:
GEO 340, 353, 361, 365, 385, 431, 430, 481 (2 credit hours)

Women's Studies

Program Director Kelli Zaytoun

Affiliated Faculty See program Web site at <http://www.wright.edu/cola/prog/wms/affifac.htm>.

Women's Studies (WMS) is an interdisciplinary program that places women in all their diversity at the center of inquiry and examines how gender influences personal identities, cultural and artistic expressions, social arrangements, political and economic systems, and even ways of knowing and understanding the world. A minimum GPA of 2.0 is required to enter the program. The Bachelor of Arts program in women's studies is organized around three major areas of inquiry: feminist thought/theory, women in multicultural perspective, and women in international perspective. Through courses taught in these and other areas across many disciplines, as well as opportunities for internship experiences and/or independent research, students will gain (1) critical thinking and communication skills; (2) the ability to analyze multiple fields of difference related to gender, race, cultural identity, nationality, class, age, sexual orientation, and physical ability; (3) new ways of seeing and new standards for evaluating diverse women's and men's contributions to knowledge and society; (4) a more inclusive and transformative understanding of themselves and the world(s) in which they live; and (5) the opportunity to participate in social change.

The breadth and flexibility of the major enable students to choose among a variety of courses in many disciplines that suit their needs and interests as well as to tailor their course of study to develop a specialization within women's studies. Because the women's studies major is made up of courses that also count toward minors and majors in other disciplines, it also offers students the opportunity

to pursue minors or dual majors in other fields to supplement and apply their training in women's studies with fewer additional credits to complete. As documented in national studies of women's studies graduates, a major in women's studies prepares students for a wide array of graduate and professional programs and an equally wide range of careers in such areas as research, writing, teaching, public policy, social and health services, law, business, and communications in public, private, and nonprofit organizations at local, national, and international levels.

Students seeking admission to the major must possess an overall minimum GPA of 2.0. To graduate with a degree in women's studies, students must complete, along with university and college requirements, 16 hours of core courses and 31-36 hours of additional requirements, and maintain a grade of C or higher in all approved WMS courses taken for the major, 40 hours of which must be at the 300-level or above.

Major in Women's Studies

See General Education Requirements

General Education Requirements	56
Required Courses:	
Area III: WMS 200	
Area VI: Any approved Liberal Arts College Component course	
Foreign Language and Research Methods Requirements	24-32
Major Requirements	47-52
Core Requirements (4 courses, 16 credits)	
WMS 300*, 400*, 450, 498 or 499	16
*variable topics based on disciplinary cross-listings	
Additional Requirements (9 courses, 31-36 credits)	
one additional WMS-approved feminist thought/theory course in any discipline	4
one additional WMS-approved women in multi-cultural perspective course in any discipline	3-4
one additional WMS-approved women in inter-national perspective course in any discipline	3-4
six additional WMS-approved courses in any discipline	21-24
Note: Within the additional requirements, at least one course each in history, literature, and two different social sciences approved for women's studies must be completed. A list of approved women's studies courses that count toward the core and additional requirements is available through the women's studies Web site at http://www.wright.edu/cola/prog/wms/degrees_.htm .	
Free Electives	52-65

Total	192
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Minor in Women's Studies

The women's studies minor is open to students from all majors. In addition to WMS 200, students select six or seven approved women's studies courses.

Women's Studies Minor Requirements	28-32
General Education Required Course	
WMS 200	4
Approved Electives:	24-28
Total	28-32

Other requirements:

1. No more than three courses in the same discipline can be counted toward the minor.
2. At least five courses must be upper division (300 level and above). A minimum grade of C is required for each course counted toward the minor.

Certificate Program in Women's Studies

An undergraduate certificate in women's studies can be completed by nondegree students who wish to gain a professional credential for working with women and on women's/gender issues in various occupations. To be admitted, students must hold an undergraduate degree at either the bachelor or associate level in any area, with a 2.0 minimum GPA.

Requirements	
General Education Required Course	
WMS 200	4
Approved women's studies electives:	
Four courses from at least two departments	16
Total	20

Other requirements

1. At least three courses must be at the 300 level or above.
2. A minimum grade of C is required for each course counted toward the certificate.
3. Approved women's studies courses taken by a student in an undergraduate degree program but not culminating in a completed minor can be applied toward the undergraduate certificate after the student graduates and is admitted into the certificate program. At least two women's studies courses must be taken as a nondegree student in these cases.
4. Within three months of completing all course work, a portfolio of papers and projects produced for courses taken for the certificate must be submitted to the director of Women's Studies for review by the Women's Studies Committee. The certificate will be awarded

following positive evaluation of the portfolio, which will be judged on a pass/fail basis.

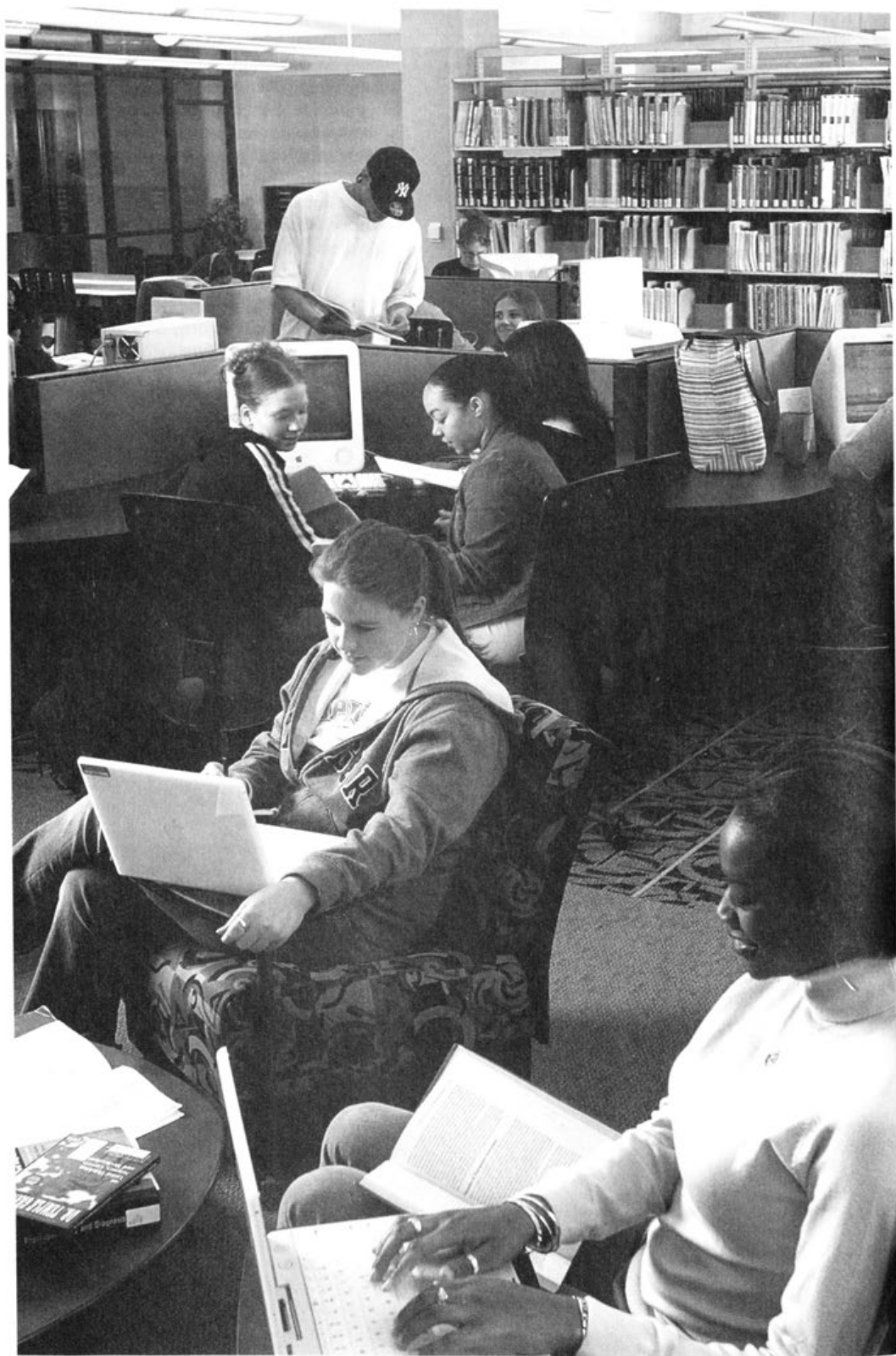
Global Gender Studies Track in the International Studies Major

The global gender studies track in the international studies major enables students to study women's and gender issues from an international and cross-cultural perspective. Through courses on women and gender in relation to international diplomacy and peace studies, area studies, comparative cultures, and international economic affairs, students can develop special expertise for work in such areas as women in economic development, human rights, and cross-cultural relations in the contexts of intergovernmental and nongovernmental organizations. See the international studies program description, as well as the directors of international studies and women's studies, for more information.

Other Options in Women's Studies

Students may alternatively or additionally pursue a women's studies graduate certificate independent of a graduate degree, alongside any graduate degree program or in the context of the women's studies emphasis in the Master of Humanities program or the women's studies option in the M.A. in English program. For more information on graduate work in women's studies, see the graduate catalog and the women's studies Web site at <http://www.cola.wright.edu/prog/wms/>.





NURSING AND HEALTH



Dean Patricia Martin

Assistant Dean Carol Holdcraft

Director for Nursing Research Barbara Fowler

Faculty

Professors Fowler, Graham, Martin, Praeger, Scordo

Associate Professors Belcher, Curry, Nehring, Vermeersch

Assistant Professors Cherrington, Gibbons, Gray, Holdcraft, Lynd, Moddeman, Sorensen, Zurmehly

Clinical Assistant Professors Bogan, Budding, Doorley, Johnson, Kelley, Osterman, Teall, Teter, Tierney

Clinical Instructors Bowling, Canfield, Davis, Herbert, Holland, Hutcheson, Lincks, Price, Ross, Stalter, Stewart

The nursing program, which leads to a Bachelor of Science in Nursing (B.S.N.) degree, is designed to meet students' individual needs. A program is also available for registered nurses who want to earn a B.S.N. degree. An accelerated B.S.N. option exists for individuals possessing a prior baccalaureate degree. An honors program is available for students with superior academic ability.

The professional nurse is increasingly being viewed as the nucleus of the health care system, as well as serving as an advocate for health care consumers. Therefore, Wright State's program prepares self-directed graduates who can function as generalists in a number of settings and work in collaboration with other health professionals to coordinate and improve the health care of individuals, families, and communities.

The nursing program at Wright State is accredited by the National League for Nursing and approved by the Ohio Board of Nursing. Graduates of the program are eligible for the National Council of State Boards Licensing Examination (NCLEX) to become licensed as registered nurses.

Admissions and Advising

The baccalaureate program in nursing is an upper division major. Admission to Wright State University does not guarantee admission to the Wright State University-Miami Valley College of Nursing and Health.

To be eligible to apply for admission to the college, students must be accepted as degree-seeking students at Wright State University, complete all designated prerequisite courses with a combined 2.5 GPA, and have at least a 2.5 cumulative GPA.

Due to the number of applicants seeking admission to the College of Nursing and Health, admission is competitive, based on cumulative GPA. The number of students admitted is determined by the availability of such resources as clinical sites and by the number of faculty available to the college. All students must submit an admissions application to the college office by the established deadline.

Students must earn a grade of C or better all science courses to progress through the clinical nursing courses. Students must also earn a grade of C or better in each nursing course.

Students can repeat a science course one time only; a maximum of two science courses may be repeated. Students may repeat one nursing course. Students subsequently failing any nursing course will be dismissed from the program.

New Students

All new students interested in nursing will be admitted to the university as prenursing students. Most new students will initially be advised in the University College. Students may seek admission to the College of Nursing and Health to complete their program after they

1. complete 48 quarter credit hours;
2. maintain a cumulative GPA of 2.5 or higher;
3. complete all prerequisite courses with a minimum GPA of 2.5;
4. earn at least a grade of C in ENG 101 and 102, PSY 105 and 110, CHM 102, SOC 200, ANT 201, STT 160, and M&I 220;
5. submit a College of Nursing and Health admissions application by the established deadline; and
6. submit a written statement of 250 words or less describing life experiences the applicant brings to nursing.

Transfer Students

Transfer students must meet the same requirements as new students. Transfer students who do not have the necessary prerequisites will be admitted as prenursing students until they meet the requirements listed for new students, including a GPA of 2.5 or above.

Transfer students with baccalaureate nursing credits from another accredited nursing program will have their nursing credits evaluated in the College of Nursing and Health.

Registered Nurses

The College of Nursing and Health offers a Bachelor of Science in Nursing completion track for registered nurses. This course of study builds on the skills and experiences of the registered nurse and provides a solid preparation for future graduate study. All registered nurses are granted advanced standing for their prior learning.

Registered nurse students may choose to complete the program online or in a traditional classroom setting.

BEACON Program for Second Degree Students

The BEACON (Baccalaureate Education Accelerates Careers in Nursing) program is a 15-month program of study leading to the B.S.N. for individuals who have earned a baccalaureate degree with a 3.0 cumulative GPA. Admission to the program is competitive, based on cumulative GPA, prerequisite course work GPA, essay, and the ability to perform functions required in the practice of nursing.

Student Organizations

The Wright State Student Nurse Association (WSSNA) is a branch of the national and state student nurse associations and is open to all nursing and prenursing majors.

Zeta Phi Chapter of Sigma Theta Tau International Honor Society of Nursing is affiliated with the College of Nursing and Health. Membership is offered to the top one-third of baccalaureate students who have completed at least three-fourths of the nursing curriculum.

Student Mentoring and Retention Team (SMART) is a student managed/faculty supported retention program for all prenursing and nursing students.

Degree Requirements

Bachelor of Science in Nursing Degree

General Education	57.5
Required Substitutions:	
Area I: STT 160	
Area V: CHM 102, ANT 201, ANT 202	
Required Courses:	
Area III: PSY 105; SOC 200	
Area VI: NUR 212	

Support Courses	32
M&I 220	
P&B 301, 302	
BMB 250	
PHR 340	
PSY 110, 311, 341	
Nursing Requirements	101
NUR 209, 210, 212, 217, 218, 304, 305, 306, 307, 321, 322, 323, 324, 406, 407, 414 or 415, 421, 422, 423, 424	
Free Electives	1.5
Total	192

*College of Nursing and Health Area VI Policies:

* Students who transfer from another WSU major and who completed their Area VI for a previous major still need NUR 212 as a required nursing course.

* Students who transfer to WSU with a completed transfer module from another institution must still complete NUR 212 as a required nursing course.

Bachelor of Science in Nursing Degree: RN/BSN Completion Option

General Education	57.5
Required Substitutions:	
Area I: STT 160	
Area V: CHM 102, ANT 201, ANT 202	
Required Courses:	
Area III: PSY 105 SOC 200	
Area VI: NUR 212	
Support Courses	20–28
M&I 220	
P&B 301**, 302**	
BMB 250	
PHR 340	
PSY 110, 341	
**Waived with C or better in NUR 306	
Nursing Requirements	97–101
NUR 209†, 210, 212, 217†, 218†, 304, 305†, 306, 307, 321†, 322†, 323†, 324†, 406, 407, 414 or 415, 421†, 422, 423†, 424† NUR 308, 405, 425, and 462 (RN only courses)	
† Recognition of competency achievement equivalent to a maximum of 53.5 of the required 101 nursing credit hours is possible for advanced placement, based on prior learning and success in transition courses.	
Free Electives	5.5–17.5
Total	192

College of Nursing and Health Area VI

Policies:

- Students who transfer from another WSU major and who completed their Area VI for a previous major still need NUR 212 as a required nursing course.
- Students who transfer to WSU with a completed transfer module from another institution must still complete NUR 212 as a required nursing course.

BEACON Program

Prerequisites:

ANT 201, 202
CHM 102
M&I 220
BMB 250
PHR 340
P&B 301, 302
PSY 311, 341
SOC 200
STT 160

Nursing Requirements

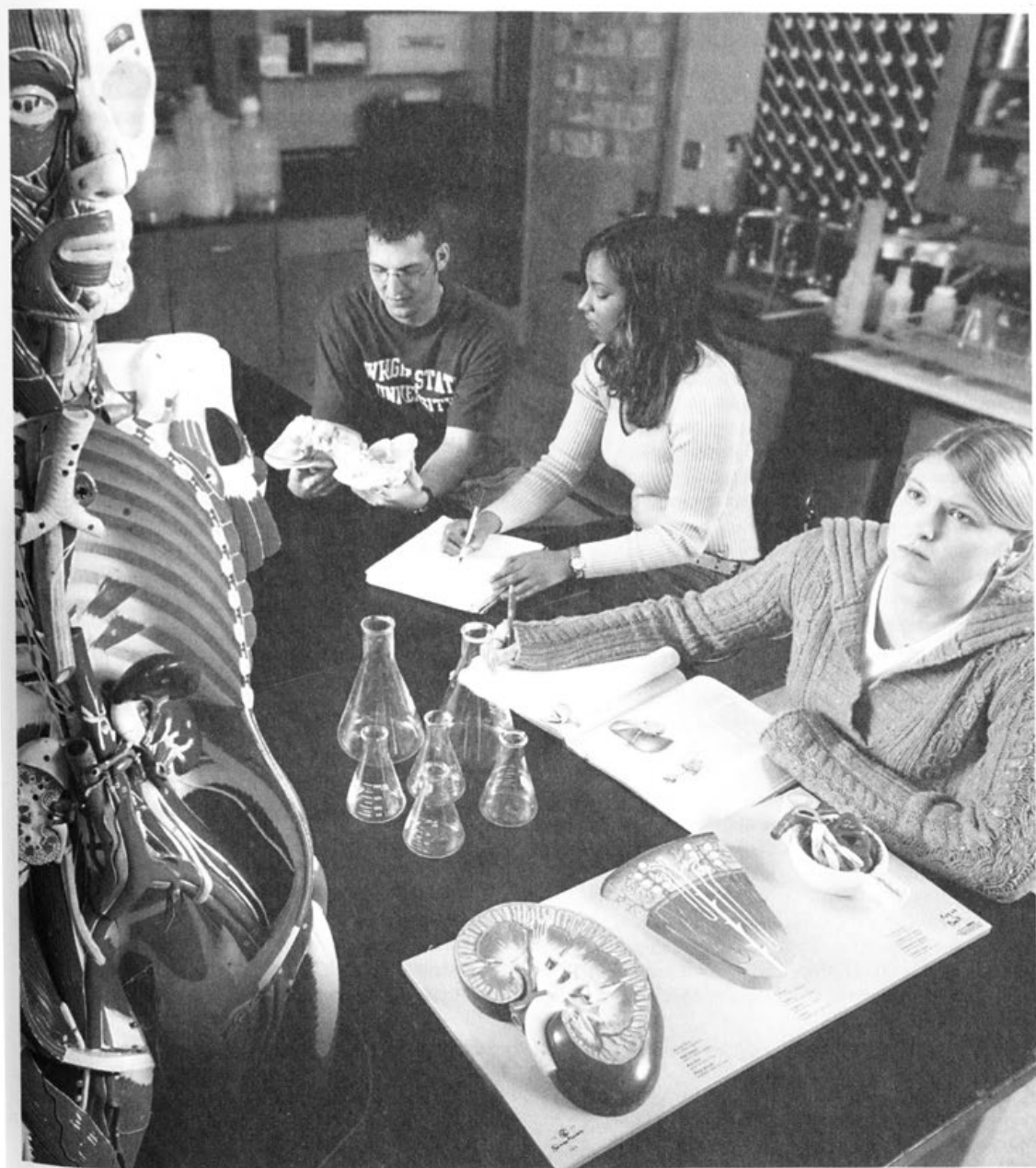
NUR 304, 306, 441, 442, 443, 444, 445, 450, 451, 452, 453, 454, 455, 462, 716, 750, 751, 755, 756, 762, or 708, 763



Honors Program

Students with superior academic ability may participate in the nursing honors program, which emphasizes independence, self-direction, and in-depth study in an area of interest to the student. To be eligible, students must have a 3.2 or higher GPA for the 45 credit hours immediately preceding the winter quarter of their junior year. Students eligible to participate in the nursing honors program will be notified by the college's Office of Student Affairs. The College of Nursing and Health faculty reserves the right to revise the nursing requirements or the sequence at any time, as deemed necessary to prepare students for new and emerging roles in nursing. Course requirements or sequence scheduling may also be changed.

SCIENCE AND MATHEMATICS



Dean Michele Wheatly

Associate Dean Dan Voss

Assistant Deans Stacia Edwards, Joyce Howes, Michael Reynolds

Department/Chair

Biochemistry and Molecular Biology

Daniel T. Organisciak

Biological Sciences David Goldstein

Chemistry Kenneth Turnbull (interim)

Earth and Environmental Sciences Allen Burton

Mathematics and Statistics

Joanne Dombrowski (interim)

Neuroscience, Cell Biology, and Physiology

Timothy C. Cope

Physics Lok Lew Yan Voon

Psychology John Flach

The College of Science and Mathematics offers programs leading to bachelor's degrees in several disciplines. The Bachelor of Science degree is offered in biological sciences, chemistry, clinical laboratory science, integrated sciences, earth and environmental sciences, mathematics and statistics, and psychology. Bachelor of Arts programs are available in biological sciences, chemistry, earth sciences, mathematics and statistics, and psychology. The college also offers master's and doctoral degrees in certain programs. Interdisciplinary baccalaureate programs are offered by some departments, such as earth and environmental sciences, mathematics and statistics, and physics. Preprofessional programs for students planning to teach science or mathematics in grades 7-12 are available in biological sciences, chemistry, integrated sciences, earth sciences, mathematics, and physics.

Dual major programs are available in some departments (e.g., chemistry-biology); students should discuss any specific interest with the college advisor. Dual majors will receive a Bachelor of Science degree when both of the departments are in the College of Science and Mathematics, if approved by both departments. Students interested in certain professional programs ordinarily can take one of the science curricula or a modified program that will be acceptable for graduation, for transfer elsewhere to the desired professional program, or for admission to the Wright State University Schools of Medicine and Professional Psychology.

Admissions and Advising

Students must apply for admission to the College of Science and Mathematics. Applicants must meet the following requirements: completion of at least 24 credit hours with a minimum GPA of 2.0 overall, and completion of at least two courses in the College of Science and Mathematics (or transfer equivalents) with minimum grades of C. Individual departments may specify more rigorous requirements, such as specific courses or higher GPAs overall or in the major.

After the office of the dean reviews each student's application, the student will be assigned an advisor in the appropriate department who will help the student develop a program of study.

Degrees and Areas of Study

Requirements for the Bachelor of Science Degree

To be eligible for the Bachelor of Science degree, students must

1. fulfill the university General Education requirements.
2. satisfy Writing Across the Curriculum requirements.
3. complete the residency requirement of 45 credit hours at Wright State. At least 15 of the last 45 hours for the degree must be taken at Wright State, and at least 30 hours must be taken at Wright State at the 300-level or above.
4. complete at least 183 credit hours of acceptable academic work, with at least a 2.0 cumulative GPA and at least a 2.0 GPA in the major. A student may find it necessary to earn more than 183 credit hours to meet the requirements of the curriculum chosen. In certain programs, a grade of C or better must be earned in specified courses.
5. complete at least 75 credit hours in advanced courses (numbered 200 and above) applicable to the degree.
6. complete at least 54 credit hours in one department; by permission of the department chair, up to 18 hours of this requirement may be taken in a closely related field.

7. complete all the requirements in one of the approved programs of study established by the departments or within the college. A student must take at least 95 credit hours outside the major department.

Requirements for the Bachelor of Arts Degree

To be eligible for the Bachelor of Arts degree, students must complete the requirements listed for the Bachelor of Science and also must

1. complete at least 27 credit hours in departments outside the College of Science and Mathematics and the College of Engineering and Computer Science. The level and type of courses to be taken are subject to the discretion and approval of the student's major department. These courses are in addition to those needed to fulfill the General Education requirements.
2. complete at least three courses in a department other than the major department within either the College of Science and Mathematics or the College of Engineering and Computer Science. These courses are in addition to those needed to fulfill the General Education requirements.

Honors Program

Departmental honors programs are available in biological sciences, chemistry, earth sciences, mathematics and statistics, physics, and psychology. These honors programs give well-qualified students the opportunity to complete an independent research project and pursue advanced course work. Students interested in pursuing an honors project should consult with the chair of the appropriate department. Departmental honors are awarded at graduation, upon completion of requirements.

Science and Mathematics Education

Teacher Education—Content Preparation

The following science and mathematics baccalaureate programs are offered as preprofessional programs in preparation for the graduate level Adolescence to Young Adult licensure programs:

- Chemistry
- Earth and Space Sciences
- Earth Sciences/Chemistry
- Earth Sciences/Physics
- Integrated Mathematics
- Integrated Sciences

- Life Sciences
- Life Sciences/Chemistry
- Life Sciences/Earth Sciences
- Life Sciences/Physics
- Physical Sciences
- Physics

Student Organizations

Through involvement in student clubs and societies in the College of Science and Mathematics, students can develop closer ties with other students in the same major. A variety of clubs and societies are available to students within the college:

- For biological sciences majors: the Biology Club, Environmental Sciences Club, and Sigma Xi Honor Society
- For chemistry majors: the Chemistry Club (student affiliate of the American Chemical Society)
- For geological sciences majors: student chapters of the American Association of Petroleum Geologists and the Society for Exploration Geophysicists, American Institute of Professional Geologists, and Sigma Gamma Epsilon Honor Society
- For physics majors: the Physics Club and Sigma Pi Sigma Honor Society
- For psychology majors: the Psychology Club (open to all) and Psi Chi Honor Society
- For students interested in medical school: the Premedical Society
- For students interested in veterinary school: the Preveterinary Society

Biochemistry and Molecular Biology

Professors Alter, Berberich, Leffak, Organisciak (chair), Prochaska, Reo, Weisman (emeritus)

Associate Professors Fritz (emeritus), Paietta

Assistant Professors Dennis, Kadakia, Paliy

The Department of Biochemistry and Molecular Biology offers courses in metabolism, the molecular aspects of gene expression and cellular processes, and nutrition. Although the department does not have a formal baccalaureate degree program, these

courses can serve as a concentration for those interested in building a background in biochemistry before pursuing a career in medicine or related biomedical sciences.

Honors Program

Under the biological sciences honors program, it is possible for students to complete an undergraduate honors thesis with a faculty member from the Department of Biochemistry and Molecular Biology. Students interested in this area of study need background courses in biology, other life sciences, and chemistry.

Biological Sciences

Professors Amon, Arlian, Goldstein (chair), Hull, Krane, Runkle, Wheatley (dean), Wood (emeritus)

Associate Professors Baird, Cipollini, Mamrack, Miller, Pohlman, Tomlin

Assistant Professors Bubulya, Hiskey (WSU-Lake Campus), Kenyon, Rooney, Stireman, Vadeboncoeur, Van't Hof

Clinical Laboratory Science Program Conley (director), Schieltz

The Department of Biological Sciences offers the following degree programs: Bachelor of Science and Bachelor of Arts in Biological Sciences, and Bachelor of Science in Clinical Laboratory Science. We offer five options within the Bachelor of Science: an exercise biology option, a preprofessional option, a bioinformatics option, a microbiology and immunology option, and an ecology option. A preparatory program in Allied Health Areas is available, along with a dual major program in chemistry.

There are minimum grade requirements for departmental courses in each of the undergraduate degree programs. See specific program requirements for details.

The teaching and research programs of the department are conducted in modern, well-equipped classrooms and laboratories. A 200-acre biology preserve on campus and nearby parks and preserves, such as the Beavercreek Wetlands, provide excellent opportunities for terrestrial and aquatic field studies. Students must plan their individual programs of study with the help of a departmental advisor to be sure they are meeting university, college, and departmental requirements. Many undergraduate students include faculty-guided, independent research projects in their academic programs.

Biological Sciences

The Bachelor of Science curriculum offers a broad, integrated, and in-depth approach to the life sciences. Departmental requirements consist of a balanced core of courses selected from several subject Areas, combined with elective courses from the Department of Biological Sciences and other life science departments such as Neuroscience, Cell Biology, and Physiology, and Biochemistry and Molecular Biology.

Within this degree, several options are available to students. The programs of study can accommodate students with such differing interests and objectives as graduate work in molecular biology, laboratory work in microbiology, or field work in ecology. Programs also can serve as preprofessional preparation for medical, dental, or veterinary sciences and for education licensure.

Degree Requirements—Biological Sciences

Bachelor of Science Degree

Students must achieve a grade of C or better in each course used to fulfill the Departmental Requirements of the degree.

General Education	40
Required Substitutions:	
Area I: MTH 228 or 229 and 230 or STT 264 and 265	
(counted in related course requirements)	
Area V: BIO 111, 112, 115 (counted in departmental requirements)	
Area VI: EES 260 or PSY 110 or SM 205	
Departmental Core Requirements	
BIO 111, 112, 115	12
BIO 210, 211, 212, 213, 230, 231, 492	24
Supporting Requirements	
CHM 121/125, 122/126, 123/127, 211/215, 212/216, 213/217	33
PHY 111/101, 112/102, 113/103, or 240/200, 242/202, 244/204	15–16
MTH 228, STT 264 and 265 or MTH 229, 230, 231	13–15
Life Science Electives	40

Selected from 300- and 400- level courses. A minimum of 25 credits must have BIO, M&I, or EXB prefix. A maximum of 15 credits may be selected from the departments of ANT, BMB, P&B, PHR, CHM, EES, MTH, STT, PHY, PSY, ATH, CL. A maximum of eight credits of independent study courses may apply: BIO 399, 488, 490, 492,

499, CHM 488, ANT 499, BMB 499, P&B 499.
Departmental honors students may apply up to 12 credits of BIO 495.

General Electives	7–10
Total	187

Bioinformatics

The bioinformatics track prepares students to assist in the application and development of computational tools and approaches used to acquire, store, organize, archive, analyze, and visualize dramatically increasing amounts of publicly available biological data. Students completing the program obtain a major in biological sciences and a minor in computer science as they develop an appreciation for the substantially different vocabulary and problem solving approaches used in both disciplines. Numerous internship opportunities are available for students seeking real-world experience in such Areas as stream-lined drug discovery, genome analysis, and the review of forensic DNA profiling testing results.

Degree Requirements—Biological Sciences/ Bioinformatics Option

General Education	40
Required Substitutions:	
Area I: MTH 229, 230, 231 (counted in related course requirements)	
Area V: BIO 111, 112, 115 (counted in departmental requirements)	
Area VI: EES 260 or PSY 110 or SM 205	
Departmental Core Requirements	
BIO 111, 112, 115	12
BIO 210, 211, 212, 213, 230, 231, 492	24
Supporting Requirements	
CHM 121/125, 122/126, 123/127, 211/215, 212/216, 213/217	33
PHY 111/101, 112/102, 113/103, or 240/200, 242/202, 244/204	15–16
MTH 229, 230, 231, 253, 257, BIO 420	24
Life Science Electives	40

Selected from 300- and 400- level courses. A minimum of 25 credits must have BIO, M&I, EXB prefix. A maximum of 15 credits may be selected from the departments of ANT, BMB, P&B, PHR, CHM, EES, MTH, STT, PHY, PSY, ATH, CL. A maximum of eight credits of independent study courses may apply: BIO 399, 488, 490, 492, 499, CHM 488, ANT 499, BMB 499, P&B 499.

Eight credit hours of CS 400 and 405 can be used. Departmental honors students may apply up to 12 credits of BIO 495.

Computer Science Requirements	20
CS 240, 241, 242, 400, 405	
Total	208

Exercise Biology

Exercise biology consists of three major Areas of study: exercise physiology, human motor behavior, and human biomechanics. This program is designed to promote and integrate scientific research, education, and practical applications of all aspects of exercise biology to prepare the undergraduate in fields of physical performance, fitness, health/wellness, and research. Course work and practical experience are designed with the latest American College of Sports Medicine objectives for comprehensive knowledge in the field. Outcomes of study include the opportunity to take the American College of Sports Medicine (ACSM) and the National Strength and Conditioning Association (NSCA) certification exams.

Degree Requirements—Biological Sciences/Exercise Biology Option

Bachelor of Science Degree

Students must achieve a grade of C or better in each course to fulfill the department's requirements for the degree.

General Education	40
Required Substitutions:	
Area I: STT 264 and 265 (counted in related course requirements)	
Area V: BIO 111, 112, 115 (counted in departmental requirements)	
Area VI: EES 260 or PSY 110 or SM 205	
Departmental Core Requirements	
BIO 111, 112, 115, 210, 212	20
EXB 194, 260, 321 or PSY 341, 352, 353, 354, 450, 451, 452, 455, 466, 482	44
Supporting Requirements	
CHM 121/125, 122/126, 123/127, 211/215, 212/216, 213 or BMB 423	31
PHY 111/101, 112/102	10
MTH 130, STT 264, 265	13
ANT 201, 202, BIO 278, 279, BMB 250	21

Life Science Electives	10
A minimum of 10 credit hours selected from 300 and 400 level courses in the COSM, ANT, BMB, M&I, and/or P&B and Nursing	
Total	198

Degree Requirements—Biological Sciences/Microbiology and Immunology Option

General Education	40
Required Substitutions:	
Area I: MTH 228 or 229 and 230, or STT 264 and 265	
Area V: BIO 111, 112, 115	
Area VI: EES 260 or PSY 110	
Departmental Core Requirements	
BIO 111, 112, 115, 210, 211, 212, 213, 230, 231, 492	37
Supporting Requirements	
CHM 121/125, 122/126, 123/127, 211/215, 212/216, 213/217	33
PHY 111/101, 112/102, 113/103, or 240/200, 242/202, 244/204	15–16
MTH 228, STT 264 and 265, or MTH 229, 230, 231	13–15
Life Science Electives	
Required courses: BIO 312 or Clinical Microbiology, M&I 426 and 431	
	11
Advanced elective courses: select a minimum of 14 credit hours from	
M&I 445, M&I 427, BIO 443, BIO 426, BIO 437, BIO 415, BIO 464/475, BIO 476/477, BIO 425, BIO 434, BIO 408, EES 442, BMB 421, BMB 423, BMB 427, EES 472	14
A maximum of 17 credits may be selected from the departments of BIO, EXB, M&I, ANT, P&B, PHR, BMB, CHM, EES, MTH, STT, PHY, PSY	
	17
A maximum of 8 credits of independent study courses may apply: i.e. BIO 399, 488, 490, 492, 499; CHM 488, ANT 499, BMB 499, P&B 499.	
Departmental honors students may apply up to 12 credits of BIO 495.	
General Electives	6–9
Total	187

Degree Requirements—Biological Sciences/Ecology Option

General Education	40
Area I: MTH 228 or 229 and 230, or STT 264 and 265	
Area V: BIO 111, 112, 115	
Area VI: EES 260 or PSY 110	
Departmental Core Requirements	
BIO 111, 112, 115, 210, 211, 212, 213, 230, 231, 492	37
Supporting Requirements	
CHM 121/125, 122/126, 123/127, 211/215, 212/216, 213/217	33
PHY 111/101, 112/102, 113/103, or 240/200, 242/202, 244/204	15–16
MTH 228, STT 264 and 265 or MTH 229, 230, 231	13–15
Life Science Electives	
Required Courses: Select a minimum of three	
BIO 312, 313, 314, 315, 316, 406, 414; BIO 456 or approved substitution	16
Advanced Ecology Courses: Select a minimum of 12 credit hours from:	
	12
BIO 380, BIO 312, BIO 407, BIO 411, BIO 420, BIO 445, BIO 470, BIO 473, BIO 484, BIO 408	
*Courses listed as required electives above may be used, if not taken, to fulfill this section.	
A maximum of 12 credits may be selected from the departments of BMB, CHM, EES, MTH, STT, PHY.	
	12
A maximum of 8 credits credits of independent study courses may apply: i.e., BIO 399, 488, 490, 492, 499, CHM 488, ANT 499, BMB 499, P&B 499.	
Departmental honors students may apply up to 12 credits of BIO 495.	
General Electives	6–9
Total	187

Degree Requirements—Biological Sciences

Bachelor of Arts Degree

The Bachelor of Arts curriculum is less structured than the Bachelor of Science curriculum. It provides a substantial foundation in the biological and physical sciences, while the large number of electives allows students considerable flexibility in meeting their individual educational objectives. Students must work with their advisor to formulate a specific plan of study. Students must achieve a grade of C or better in each course used to fulfill

the departmental requirements and the departmental electives of this degree.

General Education 40

Required Substitutions:

Area I: MTH 130 and 145 or MTH 130, STT 264 and 265 (counted in related course requirements)

Area V: BIO 111, 112, 115 (counted in departmental requirements)

Area VI: EES 260 or PSY 110 or SM 205

Departmental Core Requirements

BIO 111, 112, 115 12

BIO 210, 211, 212, 213, 230, 231, 492 24

Supporting Requirements

CHM 121/125, 122/126, 123/127, 211/215, 212, 213 29

PHY 111/101, 112/102, 113/103 15

MTH 130 and 145 or MTH 130, STT 264 and 265 9–13

Life Science Electives 15

Select a minimum of 15 credits from 300- and 400-level courses in biology (BIO, M&I or EXB prefix). You may apply up to five credits of independent study courses (BIO 399, 488, 490, 492, 499, CHM 488, ANT 499, BMB 499, P&B 499).

College Requirements 27

27 credit hours outside the College of Science and Mathematics and the College of Engineering and Computer Science. Select a minimum of 13 credits from additional 300- and 400-level courses from any department.

General Electives 12–16

Must include three courses in a department in the College of Science and Mathematics or the College of Engineering and Computer Science, other than departmental requirements or general education

Total 187

Minor Program

Students majoring in another department may earn a minor in biological sciences. The minor includes at least 36 credit hours from a broad selection of courses in both biological sciences and environmental health, distributed as follows:

Departmental Core Requirements

BIO 111, 112, 115, 492 14

22 credit hours of BIO or approved EES courses 22

Total 36

Minimum entry requirements include 24 hours (or equivalent) of previous university course work with grades of C or better and an overall 2.0 GPA in three

introductory biology courses (BIO 111, 112, 115 preferred). Successful completion of a biological sciences minor requires a grade of C or better in program courses. Note that many BIO and EH courses themselves have specific course prerequisites.

Clinical Laboratory Science (Previously Medical Technology)

The Clinical Laboratory Science program includes three years of prescribed study at Wright State University and a one-year clinical laboratory curriculum in a clinical laboratory science program accredited by the American Medical Association Council on Medical Education through the National Accrediting Agency of Clinical Laboratory Sciences (NAACLS). Upon successfully completing the program, students receive the Bachelor of Science in Clinical Laboratory Science degree. They also become eligible to take the national certification examination given by the Board of Registry for Medical Technologists (ASCP) and the CLS examination administered by the National Certification Agency for Laboratory Personnel. Through special arrangements, students may obtain their clinical education in other programs of clinical laboratory science accredited by the NAACLS, after they receive approval from the chair of the Department of Biological Sciences.

In the fall quarter of their preclinical year, students apply, through the department, for admission into the clinical laboratory program. Criteria used to determine admission include the academic record, letters of recommendation, and results of a personal interview. The number of positions in each class for the clinical year program is limited.

Degree Requirements—Clinical Laboratory Science

Bachelor of Science in Clinical Laboratory Science Degree

Students must achieve a grade of C or better in each course used to fulfill the departmental requirements and clinical program requirements of this degree.

General Education 40

Required Substitutions:

Area I: STT 264 and 265 (counted in related course requirements)

Area V: CHM 121/125, 122/126, 123/127 (counted in related course requirements)

Area VI: EES 260 or PSY 110

Departmental Core Requirements	
BIO 112	4
BIO 210, 211, 213, 443, 476/477 M&I 220 or BIO 312	25
Supporting Requirements	
CHM 121/125, 122/126, 123/127, 211/215, 212/216, 213/217	
CHM 312/314	40.5
MTH 129, STT 264, 265	11
M&I 426, BMB 427	7
CS 205	4
Clinical Program	65
CL 420 through 493	
Total	196.5

In a program such as this, the order in which courses are taken is of extreme importance. The required program should be followed, and all individual course schedules should be planned with an advisor.

Clinical Laboratory Science Clinical Year Program

The College of Science and Mathematics offers a comprehensive Clinical Laboratory Science Clinical Year Program that provides participating students with the academic preparation and clinical skills needed to be a qualified practitioner. The curriculum begins in June and includes one quarter of basic lecture/laboratory courses on campus, followed by three quarters of supervised clinical rotations in nine cooperating affiliated clinical facilities: The Children's Medical Center, Veterans Affairs Medical Center, Greene Memorial Hospital, Good Samaritan Hospital and Health Center, Upper Valley Medical Center, Reid Hospital, Miami Valley Hospital, McCullough-Hyde Memorial Hospital, Kettering Medical Center, Gene Screen, Community Blood Center, and CompuNet Clinical Laboratories. Upon successfully completing the program, students are eligible to receive the Bachelor of Science in Clinical Laboratory Science degree, provided they meet the requirements for the degree as stated in this catalog.

Prerequisites, Application, and Admission

Requirements for admission to the clinical year program are set by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). Prerequisites include inorganic chemistry, organic chemistry and/or biochemistry, general biological sciences, microbiology, immunology, and mathematics. Applicants must also have a bachelor's degree or be eligible for one upon completing the clinical program and have an overall GPA of 2.5.

Eligible applicants from nonaffiliated universities will be considered. These applicants must also meet NAACLS requirements before they can enter the program.

Applicants with a foreign baccalaureate degree must meet NAACLS criteria before they enter the clinical year program.

Admission to Wright State University or the Department of Biological Sciences does not automatically guarantee admission into the clinical year program.

Applicants should submit their application materials and schedule an interview with the Clinical Laboratory Science Program director during the fall quarter of the year before they enter the program.

Curriculum Outline

Course Requirements	
CL 420, 422, 423, 431, 441, 442, 443, 451, 461, 462, 463, 471, 472, 473, 481, 491, 492, 493	
Total	59

Allied Health Programs

Students can begin with two years at Wright State University and gain an excellent foundation while satisfying many of the college requirements for application to the Ohio State programs listed below.

Allied Health Areas	
Medical Dietetics	
Circulation Technology	
Health Information Management and Systems	
Occupational Therapy	
Radiological Technology	
Respiratory Therapy	

Students wanting a degree in physical therapy should complete the Bachelor of Science in Exercise Science and then transfer to the Master of Physical Therapy program at The Ohio State University. For more information on these programs, contact the Department of Biological Sciences.

Biological Sciences Education

Students who wish to teach biology or chemistry in Ohio public high schools can pursue the B.A. or B.S. degree in biological sciences. Upon completion of this undergraduate degree program in the College of Science and Mathematics, students must complete the Professional Educators Program (PEP) Master of Education (M.Ed.) degree through

Wright State's College of Education and Human Services. Graduates of the B.A. or B.S. in biological sciences program and the M.Ed. Professional Educators Program are eligible to seek licensure from the Ohio Department of Education in Life Sciences or Life Sciences/Chemistry, depending on the content of the undergraduate curriculum.

Degree Requirements—Biological Sciences Education

Bachelor of Science Degree (Life Sciences/Chemistry)

The Adolescent to Young Adult Life Sciences/Chemistry Licensure Program is based on an undergraduate Bachelor of Science degree in biological sciences.

General Education	40
Required Substitutions:	
Area I: MTH 229, 230 and 231 (counted in related course requirements)	
Area V: BIO 111, 112, 115 (counted in departmental requirements)	
Area VI: EES 260 or PSY 110 or SM 204	
Departmental Core Requirements	
BIO 111, 112, 115	12
BIO 210, 211, 212, 213, 230, 231, 492	25
Supporting Requirements	
CHM 121/125, 122/126, 123/127, 211/215, 212/216, 213/217	33
PHY 111/101, 112/102, 113/103, or 240/200, 242/202, 244/204	15–16
MTH 229, 230, 231	15
Life Science Electives	40
Selected from 300- and 400-level courses. A minimum of 25 credits must have BIO, M&I, or EXB prefix. This must include eight credits of: BIO 399. In addition, students are required to take, CHM 312, 314, 451, and EES 251, 252	
Phase One Professional Education Courses	15
ED 211, 223, 301, 303, EDS 333	
Total	195

Degree Requirements—Biological Sciences Education

Bachelor of Science Degree (Life Sciences)

The Adolescent to Young Adult Life Sciences Licensure Program is based on an undergraduate

Bachelor of Science degree in biological sciences.

General Education	40
Required Substitutions:	
Area I: MTH 228 or 229 and 230, or STT 264 and 265 (counted in related course requirements)	
Area V: BIO 111, 112, 115 (counted in departmental requirements)	
Area VI: EES 260 or PSY 110 or SM 205	
Departmental Core Requirements	
BIO 111, 112, 115	12
BIO 210, 211, 212, 213, 230, 231, 492	25
Supporting Requirements	
CHM 121/125, 122/126, 123/127, 211/215, 212/216, 213/217	33
PHY 111/101, 112/102, 113/103, or 240/200, 242/202, 244/204	15–16
MTH 228, STT 264 and 265 or MTH 229, 230, 231	13–15
Life Science Electives	43.5
Selected from 300- and 400-level BIO, M&I, or EXB courses.	
EES Series EES 251/252, 253/254, 255/256	13.5
BIO 399 Undergraduate Teaching-required for the AYA program	8
30 Credits of 300/400 level courses including:	
a) a minimum of 25 hours in BIO/M&I/EXB (8 hours must include BIO 399)	
b) a maximum of 5 hours from other life sciences areas (ANT, BMB, CL, PB, PHR)	
Phase One Professional Education Courses	15
ED 211, 223, 301, 303, EDS 333	
Total	196.5

Degree Requirements—Biological Sciences Education

Bachelor of Arts Degree (Life Sciences)

The Adolescent to Young Adult Life Sciences Licensure Program is based on an undergraduate Bachelor of Arts degree in Biological Sciences.

General Education	40
Required Substitutions:	
Area I: STT 264 and 265 (counted in related course requirements)	
Area V: BIO 111, 112, 115 (counted in departmental requirements)	
Area VI: EES 260 or PSY 110 or SM 205	

Departmental Core Requirements

BIO 111, 112, 115	12
BIO 210, 211, 212, 213, 230, 231, 492	25

Supporting Requirements

CHM 121/125, 122/126, 123/127, 211/215, 212, 213	29
PHY 111/101, 112/102, 113/103	15

MTH 130 and 145 or MTH 130, STT 264 and 265	9–13
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Life Science Electives 15

Select a minimum of 10 credits from 300- and 400-level courses in biology (BIO prefix). BIO 399 - Undergraduate Teaching is required for the (5 credits) AYA program.

College Requirements 27

1. Complete 27 credit hours outside the College of Science and Mathematics and the College of Engineering and Computer Science (a minimum of two credit hours must be at the 300/400 level to fulfill residency requirements). This must include ED 221, 223, 301, 303, and EDS 333 to fulfill the phase one professional education requirement.
2. Complete at least three courses in a department other than the major department within the College of Science and Mathematics or the College of Engineering and Computer Science. Required electives are: EES 251/252, 253/254, 255/256.

Total	185.5
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Biological Sciences Honors Program

An honors program allows qualified students to carry out independent projects under the guidance of faculty sponsors. Students who have maintained a cumulative GPA of 3.4 during the preceding three quarters may apply to the Department of Biological Sciences to pursue an honors program. Application for admission to the program should be made during the student's junior year. Students interested in the honors program should contact the departmental office.

Dual Major Program

The Department of Biological Sciences participates in the university's dual major program with the Department of Chemistry. Students should refer to the Department of Biological Sciences office for program requirements.

Bachelor of Science—Dual Chemistry

General Education	40
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Required Substitutions:

Area I: MTH 229 and 230 (counted in related course requirements)

Area V: BIO 111, 112, 115 (counted in departmental requirements)

Area VI: EES 260 or PSY 110

Departmental Core Requirements

BIO 111, 112, 115	12
BIO 210, 211, 212, 213, 230, 231, 492	24

Supporting Requirements

CHM 121/125, 122/126, 123/127, 211/215, 212/216, 213/217	33
PHY 111/101, 112/102, 113/103, or 240/200, 242/202, 244/204	15–16
MTH 229, 230, 231	15

Life Sciences Electives 40

Selected from 300- and 400-level courses. A minimum of 25 credits must have BIO, M&I, EXB prefix. A maximum of 15 credits from the required 300/400 level CHM courses can be used as other life sciences electives. A maximum of eight credits of independent study courses may apply: BIO 399, 488, 490, 492, 499, CHM 488, ANT 499, BMB 499, P&B 499. Departmental honors students may apply up to 12 credits of BIO 495.

Additional Chemistry Requirements

CHM 312/314, 451, 452/457, 453/458	22.5
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Total	201.5
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Chemistry

Professors Battino (emeritus), Feld, Fortman (emeritus), Gilpin, Katovic, Ketcha, Servé (emeritus), Seybold, Turnbull (interim chair)

Associate Professors Bombick, Dolson, Fossum, Grossie, McGowin

Assistant Professors Higgins, Lunsford

The Department of Chemistry offers programs leading to the Bachelor of Arts, Bachelor of Science, and Master of Science degrees in chemistry. The Bachelor of Science in Education degree with a concentration in chemistry is also available. The Bachelor of Arts and Bachelor of Science curricula are designed to prepare undergraduate students

for careers as professional chemists, entrance into medical or dental school, or graduate work in chemistry. Both programs are flexible and permit the options of a heavy concentration in chemistry courses or a combination of a chemistry major with extensive course work in allied (other sciences) or nonallied (business, arts) areas. In order to develop their academic programs to meet specific needs and individual interests, students should consult their academic advisors. The Bachelor of Science program is certified by the American Chemical Society.

Degree Requirements—Chemistry

Bachelor of Science Degree

The Bachelor of Science candidate is required to complete the chemistry, mathematics, and physics course sequences in the following program outline with one exception: CHM 499, Special Problems in Chemistry, is not required. However, it is expected that the serious chemistry major will complete at least four credit hours of this research course during the senior year.

In the Bachelor of Science program with an orientation for premedical students or others wishing a broader science base, CHM 417, 419, 420, 421, 425, and BMB 421 are not required. The physics requirement may be met with the PHY 111, 112, 113 sequence and PHY 101, 102, 103 laboratories. BIO 111, 112, and 115 are required. At least two courses must be selected from BIO 210, 211, 212, 256, 305, 312, 403, 443. Courses in other sciences may substitute for these BIO courses with departmental permission. In addition, students must take at least eight credit hours selected from BMB 421, 423, or three courses from CHM 402, 417, 420, 421, 440, 441, 443, 444, 461, 465/467. Students serious about medical school should elect BMB 421 and 423. Students should also be careful to fulfill all university and college degree requirements. Copies of a more detailed premedical program may be obtained from the College of Science and Mathematics Premedical Advisor.

Because the order in which science courses are taken is so important, students are advised to begin the mathematics, chemistry, and physics sequences as soon as possible.

Bachelor of Science in Chemistry (with ACS certification)

General Education	40
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Required Substitutions:

Area I: MTH 229, 230 (counted in core requirements)

Area V: CHM 121/125, 122/126, 123/127 (counted in departmental core and elective requirements)

Area VI: EES 260 or PSY 110 or SM 205

Core Requirements

MTH 229, 230, 231	15
PHY 240/200, 242/202, 244/204	16

Departmental Core and Elective Requirements

CHM 121/125, 122/126, 123/127	15
CHM 211/215, 212/216, 213/217	18
CHM 312/314, 417, 419, 451, 452, 453, 457, 458	28.5
CHM 420, 421, 425, 435/436, BMB 421	20.5

Electives	43
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CHM 499 and EGR 153 are recommended, along with at least one year of a foreign language.

Total	196
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Bachelor of Science in Chemistry (premed option)

General Education	40
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Required Substitutions:

Area I: MTH 229, 230 (counted in core requirements)

Area V: CHM 121/125, 122/126, 123/127 (counted in departmental core and elective requirements)

Area VI: EES 260 or PSY 110 or SM 205

Core Requirements

BIO 111, 112, 115	12
Two from BIO 210, 211, 212, 256, 305, 312, 403, 443	7–10
MTH 229, 230, 231	15
PHY 240/200, 242/202, 244/204, or 111/101, 112/102, 113/103	15–16

Departmental Core and Elective Requirements

CHM 121/125, 122/126, 123/127	15
CHM 211/215, 212/216, 213/217	18
CHM 312/314, 451, 452, 453, 457, 458	28.5
CHM 435/436	7.5

Eight hours from BMB 421, 423, or three courses from CHM 402, 417, 420, 421, 440, 441, 443, 444, 461, 465/467	8
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Electives	26–30
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CHM 499 and EGR 153 are recommended, along with at least one year of a foreign language.

Total	196
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Degree Requirements—Chemistry

Bachelor of Arts Degree

The Bachelor of Arts degree candidate is required to complete the chemistry, mathematics, and physics course sequences in the following program

outlines. Additional requirements include 12 hours of science electives and two years of foreign language study. The science elective requirement may be satisfied with any course sequence in the College of Science and Mathematics (COSM) or the College of Engineering and Computer Science (CECS), including additional chemistry courses or individual research projects (CHM 499). The foreign language requirement may be satisfied with two years of study in any foreign language or one year each of two languages.

Chemistry majors who are Bachelor of Arts degree candidates are also required to earn 27 credit hours (18 of which must be 200 level or above) outside the colleges of Science and Mathematics and Engineering and Computer Science. This requirement may not be satisfied with courses used to fulfill foreign language or General Education requirements. In order to ensure a reasonably high level of exposure in some area, it is further required that students complete at least 30 hours in courses numbered 300 or higher applicable to the degree.

Bachelor of Arts in Chemistry

General Education	40
Required Substitutions:	
Area I: MTH 229, 230 (counted in core requirements)	
Area V: CHM 121/125, 122/126, 123/127 (counted in departmental core and elective requirements)	
Area VI: EES 260 or PSY 110 or SM 205	
Core Requirements	
MTH 229, 230, 231	15
PHY 240/200, 242/202, 244/204, or 111/101, 112/102, 113/103	15–16
Science electives	12
Departmental Core and Elective Requirements	
CHM 121/125, 122/126, 123/127	15
CHM 211/215, 212/216, 213/217	18
CHM 312/314, 451, 452/457, 453/458	20.5
Electives	9–10
Foreign language	21
Additional courses outside COSM and CECS	27
Total (minimum requirement)	193.5

Dual Major Degree

Dual Major Requirements in Chemistry	
General Education	40

Required Substitutions:

- Area I: MTH 229, 230 (counted in core requirements)
 Area V: CHM 121/125, 122/126, 123/127 (counted in departmental core and elective requirements)
 Area VI: EES 260 or PSY 110 or SM 205

Core Requirements

MTH 229, 230, 231	15
PHY 240/200, 242/202, 244/204, or 111/101, 112/102, 113/103	15–16

Departmental Core and Elective Requirements

CHM 121/125, 122/126, 123/127	15
CHM 211/215, 212/216, 213/217	18
CHM 312/314, 451, 452/457, 453/458	20.5
Second Component of Dual Major	69–70
Total (minimum requirement)	92.5

Chemistry Education

Students who wish to teach chemistry in Ohio public high schools can pursue the Bachelor of Science degree in chemistry. Upon completion of this undergraduate degree program in the College of Science and Mathematics, students then must complete the Professional Educators Program (PEP) Master of Education (M.Ed.) degree through Wright State's College of Education and Human Services. Graduates of the B.S. in chemistry and the M.Ed. Professional Educators Program are eligible to seek licensure from the Ohio Department of Education in either chemistry or chemistry in combination with another science field, depending on the content of the undergraduate curriculum.

Degree Requirements—Chemistry Education

Bachelor of Science in Chemistry—Chemistry Education

The Adolescence to Young Adult Chemistry Licensure Program is based on an undergraduate Bachelor of Science degree in chemistry.

General Education	40
Required Substitutions:	
Area I: MTH 229, 230 (counted in core requirements)	
Area V: CHM 121/125, 122/126, 123/127 (counted in departmental core and elective requirements)	
Area VI: EES 260 or PSY 110 or SM 205	

Core Requirements

BIO 111, 112	8
MTH 229, 230, 231	15
PHY 240/200, 242/202, 244/204	16
EES 251/252, 253/254, 255/256	13.5
ED 221, 223, 301, 303; EDS 333	15

Departmental Core and Elective Requirements

CHM 121/125, 122/126, 123/127	15
CHM 211/215, 212/216, 213/217, 312/314	25.5
CHM 451, 452, 453, 457, 458	15
CHM 499	9
CHM electives from CHM 417, 420, 421, 435/436, BMB 421	9
Electives	15

Total	196
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Chemistry Honors Program

The honors program in chemistry is designed to provide recognition to the gifted student who pursues a program of independent study under the guidance of a faculty advisor. The program is open to any chemistry major in the B.S. program having at least junior standing and a 3.25 or better overall GPA, including a 3.40 or better average in at least four quarters of chemistry. The normal time for application for admission is at the end of the sophomore year and no later than the end of the junior year.

Students apply for admission by contacting the chairman of the departmental undergraduate studies committee, who will examine the student's record to determine eligibility. Eligible students are asked to submit a short statement (no longer than one typed page) indicating (1) why he/she wishes to pursue departmental honors, (2) the faculty member who has agreed to work with him/her, and (3) a description of the proposed project. Upon acceptance into the program, the student should undertake at least 12 credits of CHM 488 and/or 499. The student also must pass two elective 300- or 400-level chemistry courses; with prior departmental approval, extra courses in other sciences (300 level or above) may be substituted.

Earth and Environmental Sciences

Professors Barton, Burton (Chair), Gregor, Ritzi, Wolfe (emeritus)

Associate Professors Agrawal, Carney, Cheng, Dominic, Hauser, Hunt, Slattery, Tebbens, Watts

Assistant Professors Ciampaglio (Lake Campus), Hammerschmidt

Lecturer Brown

Earth Sciences

The department offers programs leading to the Bachelor of Science and Bachelor of Arts degrees in earth sciences and earth sciences education. Both programs are designed to include earth and related sciences and to prepare students for graduate study or professional employment. Professional earth scientists are employed in protecting and enhancing natural resources (environment, surface, and ground waters), as well as in exploring for new resources (oil, gas, and minerals). The Bachelor of Science program is more highly structured and through the various options offered is intended to prepare students for specific professional or technical careers. The Bachelor of Arts program is intended to be more flexible and to permit students with either broad or specialized interests to fulfill their program needs. The Bachelor of Arts program readily permits interdisciplinary programs such as a dual major in an unrelated field.

Students who have taken the General Education Earth and Environmental Sciences sequence (100 level) are not required to take EES 251, 253, and 255. However, they are required to take EES 252, 254, and 256.

Environmental Sciences

Wright State University's program is one of only 26 nationwide accredited by the National Environmental Health Science and Protection Accreditation Council. The curriculum in environmental sciences provides students with a sound academic background and the specialized training needed to work effectively in several Areas involving environmental quality management. Career opportunities include work in public health and environmental protection agencies, environmental consulting firms and analytical laboratories, and health and safety programs in industries, as well as

in natural resource management. The program also prepares students for graduate programs in public health and environmental sciences. A field internship program, operated in cooperation with participating environmental health agencies or industries, gives students an opportunity to gain practical work experience.

Both the Earth and Environmental Sciences programs also offer minors. Since personal objectives, interests, and aptitudes vary considerably with each individual, the department offers a broad spectrum of educational options within a sound academic framework. Majors have considerable choice in the basic program, options, and elective courses. Students should identify these choices as early as possible because course sequencing, particularly in Bachelor of Science options, is a critical factor. For this reason, all students are strongly urged to consult their advisor to develop their individual programs.

Honors Program

Candidates for the B.A. or B.S. degree who have a cumulative GPA of 3.0 or better may apply at the end of their junior year for admission to the departmental honors program. Requirements for graduation with honors are a cumulative GPA of 3.0 or better and satisfactory completion of a senior thesis under the guidance of a faculty member. EES 496 (Senior Thesis Research) requires a total of six to nine credits. Students may choose the topic from any branch of earth and environmental sciences; current course listings in this catalog may be taken as a rough indication of the range available.

Application forms for the honors program are available in the department office and require the following:

1. A summary proposal of the senior thesis topic
2. Expected date of graduation (which must be at least three full quarters, not including summer quarter, after the date of the application)
3. The endorsement of the student's departmental advisor and that of the senior thesis advisor, if not the same.

Degree Requirements—Earth and Environmental Sciences/ Earth Science Option

Bachelor of Science Degree

The Bachelor of Science degree curriculum is designed to prepare the graduate for a technical career or for graduate study in earth sciences. The course requirements and recommended course sequences follow.

General Education	40
Required Substitutions	
Area I: Math 229, 230 (counted in section III)	
Area V: EES 251/252, 253/254, 255/256 (counted in section II)	
Area VI: College Component - choose one, EES 260, SM 205	
Departmental Requirements	74
EES 251/252, 253/254, 255/256	13.5
EES 313, 312, 314, 316	14.5
EES 417, 419, 421	13.5
EES 428 (three quarters, 1.5 credits), 434	10.5
Earth and Environmental Sciences Electives	22
Related Course Requirements	65
CHM 121/125, 122/126, 123/127	15
CEG 220 or EGR 153 or CS 141 or CS 214	4
MTH 229, 230	10
PHY 240/200, 242/202, 244/204	16
STT 264 or 360	4
One course from MTH 231, STT 265, or STT 361	4-5
Supporting electives	11-12
Unrestricted Electives	10
Total	189

Bachelor of Arts Degree

The Bachelor of Arts curriculum is designed for students who desire scientific training, especially through interdisciplinary programs. Because of its broad and flexible approach, students who elect to follow a Bachelor of Arts program should have specific educational objectives that can be reasonably attained through this program.

General Education	44
Required Substitutions	
Area Five: EES 251/252, 253/254, 255/256 (counted in section II)	
Area Six: College Component - choose one, EES 260, SM 205	
Departmental Requirements	61
EES 251/252, 253/254, 255/256	13.5
EES 312, 417, 419, 421, 428 (three quarters, 1.5 credits), 434	28.5
Earth and Environmental Sciences Electives	19
Related Course Requirements	47-50
BIO 111, 112, 115 or PHY 111, 112, 113 or CHM 121/125, 122/126, 123/127	12-15
Supporting Electives	25

Mathematics and Statistics (MTH 128 or higher)	10
Electives outside Colleges of Science and Mathematics and Engineering and Computer Science	27
Unrestricted Electives	10
Total	189

Earth Sciences Education

Students who wish to teach earth sciences in Ohio public high schools can pursue the Bachelor of Arts degree. Upon completion of this undergraduate degree program in the College of Science and Mathematics, students then must complete the Professional Educators Program (PEP) Master of Education (M.Ed.) degree through Wright State's College of Education and Human Services. Graduates of the B.A. or B.S. in earth sciences and the M.Ed. Professional Educators Program are eligible to seek licensure from the Ohio Department of Education in Earth and Space Sciences, Earth Sciences/Chemistry or Life Sciences/Earth Sciences, depending on the content of the undergraduate curriculum.

Degree Requirements—Earth Sciences Education

Bachelor of Arts Degree (Earth and Space Sciences)

The Adolescent to Young Adult Earth and Space Sciences Licensure Program is based on an undergraduate Bachelor of Arts degree in earth sciences.

General Education	40
Required Substitutions:	
Area I: MTH 228 (counted in section II)	
Area V: EES 251/252, 253/254, 255/256 (counted in section II)	
Area VI: College Component - choose one, EES 260, SM 205	
Departmental Requirements	60
EES 251/252, 253/254, 255/256	13.5
EES 201, 309, 312, 324, 428 (three quarters, 1.5 credits), 434, 417, 419, 421	40.5
Earth and Environmental Sciences Electives	6
Related Course Requirements	82
BIO 111, 112, 115	12
CHM 121/125, 122/126, 123/127	15
PHY 106/116, 101/111, 102/112, 103/113	19
MTH 228, STT 264	9

Electives outside the Colleges of Science and Mathematics and Engineering and Computer Science. Must include GEO 430 or 331, and ED 221, 223, 301, 303, EDS 333	27
Unrestricted Electives	10
Total	192

Bachelor of Arts Degree (Earth Sciences/ Chemistry)

The Adolescent to Young Adult Earth Sciences/ Chemistry Licensure Program is based on an undergraduate Bachelor of Arts degree in earth sciences.

General Education	40
Required Substitutions	
Area I: MTH 229, 230 (counted in section II)	
Area V: EES 251/252, 253/254, 255/256 (counted in section II)	
Area VI: College Component - choose one: EES 260, SM 205	
Departmental Requirements	60
EES 251/252, 253/254, 255/256	13.5
EES 201, 309, 312, 324, 428 (three quarters 1.5 credits), 434, 417, 419, and 421	40.5
Earth and Environmental Sciences Electives	6
Related Course Requirements	109.5
BIO 112	4
CHM 121/125, 122/126, 123/127	15
CHM 211/215, 212/216, 213/217, 312/314, 451	28.5
MTH 229, 230, 231	15
PHY 106/116, 240/200, 242/202, 244/204	20
Electives outside the Colleges of Science and Mathematics and Engineering and Computer Science. Must include GEO 430 or 331, and ED 221, 223, 301, 303, EDS 333	27
Total	209.5

Bachelor of Arts Degree (Life Sciences/ Earth Sciences)

The Adolescent to Young Adult Life Sciences/ Earth Sciences Licensure Program is based on an undergraduate Bachelor of Arts degree in earth sciences.

General Education	40
Required Substitutions	
Area I: MTH 228 (counted in section II)	
Area V: EES 251/252, 253/254, 255/256 (counted in section II)	
Area VI: College Component - choose one EES 260, SM 205	

Departmental Requirements	60
EES 251/252, 253/254, 255/256	13.5
EES 201, 309, 312, 324, 428 (three quarters, 1.5 credits), 434, 417, 419, and 421	40.5
Earth and Environmental Sciences Electives	6
Related Course Requirements	104
BIO 111, 112, 115, 210, 211, 212, 312, 278, 279, *426, 429	44
CHM 121/125, 122/126, 123/127	15
MTH 228, STT 264	9
PHY 106/116, 111/101	9
Electives outside the Colleges and Science and Mathematics and Engineering and Computer Science. Must include GEO 430 or 331, and ED 221, 223, 301, 303, EDS 333	27
*substitutions BIO 211, 302, or 421	
Total	204

Minor Program

Students may earn a minor in earth sciences. A minor in earth sciences can improve a student's credentials for employment or for acceptance into graduate school. The minor requires a minimum of 35 credit hours. At least 10 of the credit hours used toward the minor may not be earth sciences courses required by the student's degree program. A GPA of 2.0 must be attained in the minor courses. A minor will be completed when the following requirements are satisfied.

Minor Requirements—Earth Sciences

Departmental Requirements	14
EES 251/252, 253/254, 255/256 or EES 105, 106, 107, 254	
EES 428 (one quarter, 0.5 credits)	
Directed Electives	9
Select from: EES 312, 314, 316, 417, 419, 421	
Earth and Environmental Sciences Electives	12
Total	35

Degree Requirements—Environmental Sciences

Bachelor of Science Degree

A grade of C or better must be achieved in each course used to fulfill the environmental sciences core, required supporting courses in biological sciences, environmental specialty courses, and supporting electives units of this degree.

General Education	57
Required substitutions and selections:	
Area VI: EES 260	4
Area V: BIO 111, BIO 112, BIO 115	12
Area III: EC 200	4
Area I: MTH 228	5
General Electives	32
Environmental Science Core	56
BIO 464	3
EES 360, 362, 364, 366, 368, 428, 462, 464, 466, 468, 470, 472, 474, 475, 476, 482, 492	53
Science Core	63
BIO 231, BIO 312, BIO 408 (or ENG 333)	12
CHM 121/125, 122/126, 123/127, 211, 212, 213, 215, 216, 217	33
PHY 101, 102, 111, 112	10
STT 264, 265	8
Science Electives	13
Total	189

Minor Program

An Environmental Sciences minor is available to all WSU students, regardless of major. Students must have junior standing, a 2.0 GPA, and an interest in environmental issues. A minimum of 35 credits are required for the minor. The 35-credit minimum permits the student to select from a broad array of environmental courses suited to individual needs.

Minor Requirements—Environmental Sciences

Departmental Requirements	18
EES 260, 362, 364, 468, 476	
Electives	17
Total	35

Integrated Sciences

Students who wish to teach integrated sciences in Ohio public high schools can pursue the Bachelor of Science degree in integrated sciences. Upon completion of this undergraduate degree program in the College of Science and Mathematics, students then need to complete the graduate level teacher preparation program through Wright State's College of Education and Human Services. Graduates of the B.S. in integrated sciences, with the M.Ed. through the College of Education and Human Services, are eligible to seek licensure from the Ohio Department of Education in Integrated Sciences.

Degree Requirements— Integrated Sciences Education

Bachelor of Science Degree

The Adolescent to Young Adult Integrated Sciences Licensure Program is based on an undergraduate Bachelor of Science degree in the College of Science and Mathematics.

General Education	40
Required Substitutions:	
Area I: MTH 229, 230 (counted in required supporting courses)	
Area V: BIO 111, 112, 115 (counted in departmental requirements)	
Area VI: EES 260 or PSY 110	
Core Requirements	
BIO 111, 112, 115, 312, 314, 278, 279, 421	34
CHM 121/125, 122/126, 123/127	15
CHM 211/215, 212/216, 213/217	18
EES 201, 251/252, 253/254, 255/256, 309, 324, 419	30
PHY 107/117, 240/202, 242/202, 244/204, 260, 315, 446	34
Required Supporting Courses	25
GEO 430 or 431	
MTH 229, 230	
STT 160	
Phase One Professional Education Courses	15
ED 221, 223, 301, 303, EDS 333	
Total	204

Mathematics and Statistics

Professors Arasu, Dombrowski, Evans, Farrell, Khamis, Miller, Pedersen, Ratnaparkhi, Rutter (emeritus), Seoh, Svobodny, Tarpey, Turyn, Voss (Associate Dean)

Associate Professors Ho, C. Huang, Q. Huang, Kaplan, Kinader, Loi, Mathews, Mercer, Tian, Vance, Wang

Assistant Professors Boyd, Chen, Dunlap (WSU-Lake Campus), Hawley (WSU-Lake Campus), Liu, Reed, Rife (WSU-Lake Campus), Slilaty, Sun, Tian

Lecturers Brackenridge, Dahl, Diesslin, Douglas, Lester, Otto

Instructors Buschor, Wellinghoff, Zizzo

The Department of Mathematics and Statistics offers several programs leading to a bachelor's degree in mathematics or statistics, as well as minor

programs in mathematics and in statistics. Master of Science programs are available as well.

Major Programs

The Bachelor of Science in mathematics program offers four concentrations: pure mathematics, applied mathematics, computing, and mathematics education. These four programs as well as the Bachelor of Science in Statistics program are adaptable to many postgraduation goals, ranging from various scientific or professional careers to graduate school. The Bachelor of Arts program provides a broad background in mathematics with a liberal arts orientation.

The Department of Mathematics and Statistics participates in the dual major program, leading to either the B.A. or the B.S. degree. For example, dual majors are available with computer science, engineering, and physics.

Students must have at least a 2.5 GPA in MTH 229 and 230 (or equivalent courses), with a C or better in both courses, to be accepted in the Department of Mathematics and Statistics. Students must complete one of the major programs described below. Each program includes General Education requirements, departmental requirements, related course requirements, and general electives. The departmental component consists of required courses and electives in mathematics and statistics. Students must achieve at least a 2.0 GPA in the courses numbered 300 or higher used to satisfy this component. The general electives may be taken outside the Department of Mathematics and Statistics.

Each mathematics major is assigned an advisor from the department faculty. As early as possible in their college career, students should consult with their advisor on the important choice of a concentration. Likewise, students should confer with their advisor to discuss which courses to take and when to take them. Advising materials are available in the department office to help mathematics majors in these choices. However, there is no substitute for regular, in-person consultation with the faculty advisor. Moreover, the advisor must approve all courses intended to satisfy program requirements.

Mathematics and Statistics
Degree Requirements—
Mathematics/Pure Mathematics
Concentration

Bachelor of Science Degree

General Education	40
Required Substitutions:	
Area I: MTH 229, 230 (counted in departmental requirements)	
Area V: PHY 240/200, 242/202, 244/204 (counted in related course requirements)	
Area VI: Choose one: AFS 200, ATH 241, ATH 242, ED 210, EES 260, FIN 205, HST 220, HST 221, PHL 200, PSY 110 or SM 205	
Departmental Requirements	73

Required Courses

MTH 229, 230, 231, 232, 233, 255, 280, 355, 431, 432, 433, 451, 452, 492

Recommended Course

MTH 332

Elective Courses

MTH 306, 314, 316, 317, 332, 333, 381, 407, 410, 415, 419, 456, 457, 458, 471, 480, 481, 482

STT 360, 361, 461, 462

Related Course Requirements	24
PHY 240/200, 242/202, 244/204	
CS 141 and either CS 142 or 240, or equivalent	
Electives	46
Foreign language study is recommended.	
Total	183

Degree Requirements—
Mathematics/Computing
Concentration

Bachelor of Science Degree

General Education	40
Required Substitutions:	
Area I: MTH 229, 230 (counted in departmental requirements)	

Area V: Physics is recommended for the natural sciences requirement. If physics is chosen, then PHY 240/200, 242/202, 244/204 is a required substitution (counted in related course requirements)

Area VI: Choose one: AFS 200, ATH 241, ATH 242, ED 210, EES 260, FIN 205, HST 220, HST 221, PHL 200, PSY 110 or SM 205

Departmental Requirements	68
MTH 229, 230, 231, 232, 233, 255, 257, 280, 316, 317 or 381, 355, 492	
STT 360, 361	
MTH 431 or 451	
Two courses selected from MTH 381, 407, 410, 419, 456, 457, 458	
One additional course selected from MTH 306, 314, 381, 407, 410, 415, 419, 431, 432, 451, 452, 456, 457, 458	
Related Course Requirements	40–44
CS 240, 241, 242, 400	
PHY 240/200, 242/202, 244/204 (if physics is selected for General Education natural science)	
At least three from: CEG 320, 433, 434, CS 405, 466, 470, 480, MTH 476, 477	
Electives	31–35
Total	183

Degree Requirements—
Mathematics/Applied
Mathematics Concentration

Bachelor of Science Degree

General Education	40
Area I: MTH 229, 230 (counted in departmental requirements)	
Area V: PHY 240/200, 242/202, 244/204 (counted in related course requirements)	
Area VI: Choose one: AFS 200, ATH 241, ATH 242, ED 210, EES 260, FIN 205, HST 220, HST 221, PHL 200, PSY 110 or SM 205	
Departmental Requirements	72
Required Courses	
MTH 229, 230, 231, 232, 233, 255, 280, 355, 431, 432, 492	
At least four courses chosen from:	
MTH 306, 314, 316, 317, 332, 333	
STT 360, 361	

Two courses chosen from:

MTH 407, 415, 419, 456, 458, 480, 481, 482

Two additional 400-level elective courses

Elective Courses

Those listed above, plus:

MTH 433, 451, 452, 457

STT 461, 462

Related Course Requirements 42

PHY 240/200, 242/202, 244/204

Either PHY 371, 372 or ME 212, 213

CS 141 and either CS 142 or 240, or equivalent

At least 12 hours of advanced technical electives,
which must be approved by the department

Electives 29

Total 183

Degree Requirements— Mathematics/Mathematics Education Concentration

Bachelor of Science Degree (Integrated Mathematics)

Note: The Adolescent to Young Adult
Mathematics Licensure Program is based on an
undergraduate bachelor's degree in mathematics.

General Education 40

Area I: MTH 229, 230 (counted in departmental
requirements)

Area V: If physics is chosen, then PHY 240/200,
242/202, 244/204 is a required substitution.
(counted in related course requirements).

Area VI: ED 210

Departmental Requirements 67–69

MTH 229, 230, 231, 232, 255, 280, 355, 381, 431,
432, 440, 451, 457, 471, 491

STT 360, 361

Two courses selected from MTH 233, 306, 332, 433,
452, 458

Related Course Requirements 47–53

CS 141, 142 (or 240), 206

ED 301/221, 303/223

EDS 333

PHY 240/200, 242/202, 244/204 (if physics is
selected for General Education natural science)
At least eight hours, appropriate preparation for
grades 7–12 teaching, chosen with the approval

of a mathematics education faculty advisor.

Recommended courses: MTH 343, 344, 345, 348,
446, STT 342

Electives 28–29

Total 183

Degree Requirements—Statistics

Bachelor of Science Degree

General Education 40

Required Substitutions:

Area I: MTH 229, 230 (counted in departmental
requirements)

Area V: If physics is chosen for the natural sciences
requirement, then PHY 240/200, 242/202,
244/204 is a required substitution.

Area VI: Choose one: AFS 200, ATH 241, ATH 242,
ED 210, EES 260, FIN 205, HST 220, HST
221, PHL 200, PSY 110 or SM 205

Departmental Requirements 71

Required Courses

MTH 229, 230, 231, 232, 255, 280, 355

STT 360, 361, 461, 462, 466, 467, 492

Elective Courses

STT courses numbered above 367, except 430

MTH 233, 306, 314, 316, 317, 332, 333, 381, 407,
410, 415, 419, 431, 432, 433, 451, 452, 456,
457, 458, 471, 476, 477, 480, 481, 482

CS 470

Electives selected to complete the departmental
requirements must include at least two 400-level
courses in the department, at least one of which
must be a statistics course.

Recommended Electives

STT courses numbered above 367

MTH 431, 432

Related Course Requirements 36–40

CS 141 and either CS 142 or 240, or equivalent

PHY 240/200, 242/202, 244/204 (if physics is
selected for General Education natural science)
At least 16 hours chosen with the approval of a
statistics faculty advisor, in any area in which
statistical techniques can be applied. At least
9 of the 16 hours must be at the 300 level or
above.

Electives	32–36
Total	183

Degree Requirements—Mathematics

Bachelor of Arts Degree

General Education	52
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Required Substitutions:

Area I: MTH 229, 230 (counted in departmental requirements)

Area VI: Choose one: AFS 200, ATH 241, ATH 242, ED 210, EES 260, FIN 205, HST 220, HST 221, PHL 200, PSY 110 or SM 205

Departmental Requirements	64
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Required Courses

MTH 229, 230, 231, 232, 255, 280, 355, 431, 440, 451, 471, 492

STT 360, 361

MTH 432 or 452

Elective Courses

MTH 233, 306, 314, 332, 333, 381, 407, 410, 415, 419, 432, 433, 452, 456, 457, 458, 480, 481, 482

STT 401, 461, 462, 466, 467

Related Course Requirements	38
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CS 141 and either CS 142 or CS 240, or equivalent; twenty-seven hours (at least eight hours in one department) in departments belonging to neither the College of Science and Mathematics nor the College of Engineering and Computer Science; one additional course within the College of Science and Mathematics or the College of Engineering and Computer Science, but outside the Department of Mathematics and Statistics. These courses are in addition to those needed to fulfill General Education requirements.

Electives	29
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Foreign language study is recommended.

Total	183
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Honors Program

Mathematics majors who have demonstrated superior ability in upper-level mathematics and statistics courses may pursue an honors program with the approval of the department. Further information is available from the departmental office.

Dual Major

Special programs of study are available for students interested in a dual major in mathematics and either computer science, engineering, or physics. Requirements can be obtained in the Department of Mathematics and Statistics office. Dual major programs may be arranged for students with other interdisciplinary interests. Basic requirements follow and must be integrated with a corresponding program from another participating department. All programs require a minimum of 183 credit hours.

Dual Major Degree Requirements—Mathematics

Bachelor of Science Degree

General Education	40
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Required Substitutions:

Area I: MTH 229, 230 (counted in departmental requirements)

Area V: If physics is chosen, then PHY 240/200, 242/202, 244/204 is a required substitution. (counted in related course requirements).

Area VI: Choose one: AFS 200, ATH 241, ATH 242, ED 210, EES 260, FIN 205, HST 220, HST 221, PHL 200, PSY 110 or SM 205

Departmental Requirements	45
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Required Courses

MTH 229, 230, 231, 232, 255, 355

At least two of the following:

MTH 431, 432, 451, 452, 457, 458, 480, 481, 482
STT 461, 462

Elective Courses

MTH 233, 280, 306, 314, 316, 317, 332, 333, 381, 407, 415, 419, 431, 432, 433, 451, 452, 456, 457, 458, 480, 481, 482, 492

STT 360 or 363, 361, 461, 462, 466, 467

Related Course Requirements	20–24
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CS 141 and either CS 142 or CS 240, or equivalent
PHY 240/200, 242/202, 244/204 (if physics is selected for General Education natural science)

Total	183
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Bachelor of Arts Degree

General Education	52
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Required Substitutions:

Area I: MTH 229, 230 (counted in departmental requirements)

Area VI: Choose one: AFS 200, ATH 241, ATH 242, ED 210, EES 260, FIN 205, HST 220, HST 221, PHL 200, PSY 110 or SM 205

Departmental Requirements 45

Required Courses

MTH 229, 230, 231, 255, 355

At least two of the following:

MTH 431, 432, 451, 452, 457, 458

STT 461, 462

Elective Courses (maximum of two at the 200 level)

MTH 232, 233, 280, 306, 314, 381, 410, 415, 419, 431, 432, 433, 440, 451, 452, 456, 457, 458, 471, 492

STT 360 or 363, 361, 461, 462, 466, 467

Related Course Requirements 8

CS 141 and either CS 142 or CS 240, or equivalent

Total 183

Minor Programs

Students majoring in another department may earn a minor in mathematics or a minor in statistics. Either minor can serve as an attractive credential for employment or improved preparation for graduate study. Each minor requires a minimum of 30 credit hours of approved courses; specific requirements follow.

Minor Requirements— Mathematics

Departmental Requirements 30

Required Courses

MTH 229, 230, 231, and either MTH 253 or 255

Elective Courses

MTH 232, 233, 257, 280, 306, 314, 316, 317, 332, 333, 355, 381, 407, 410, 415, 419, 431, 432, 433, 451, 452, 456, 457, 458, 471, 480, 481, 482

STT 360 or 363, 361

Only one of MTH 253 and 255 and only one of STT 360 and 363 can count toward the minor.

Courses cross-listed with the student's major department cannot be included in the minor. A GPA of at least 2.0 must be attained in all minor courses.

The minor must include at least three 300- or 400-level courses; a GPA of at least 2.0 must be earned in all minor courses at this level.

Total 30

Minor Requirements—Statistics

Departmental Requirements 30

Required Courses

MTH 229, 230, and MTH 253 or 255

STT 360, 361

Elective Courses

STT courses numbered above 367

Elective courses must be approved in advance by the Department of Mathematics and Statistics.

A GPA of at least 2.0 must be attained in all minor courses, and a GPA of at least 2.0 must be earned in all minor courses at the 300 or 400 level.

Total 30

Neuroscience, Cell Biology, and Physiology

Professors Bigley, Cambronero, Cope (chair), Fyffe, Nieder, Pearson, Putnam

Associate Professors Alvarez, Brown, Corbett, Engisch, Goldfinger, Halm, Ream, Rich, Wooley

Assistant Professors Wyatt

Instructors Miska, Rittucci

The Department of Neuroscience, Cell Biology, and Physiology offers undergraduate and graduate level courses in the College of Science and Mathematics. At the undergraduate level, our primary responsibility is to provide instruction in human anatomy and physiology, serving the College of Nursing and Health and the premedical program. The department offers a two-quarter sequence in Basic Human Anatomy and a two-quarter sequence in Human Physiology.

Physics

Professors Bambakidis, Lew Yan Voon (chair), Skinner
Associate Professors Basista, Clark, Farlow, Foy, Hunt, Kozlowski, Tebbens
Assistant Professors Koenig, Petkie
Lecturer Locker
Research Faculty Fang, Fox, Gershenzon, Look, Yu
Adjunct Faculty Hangartner, Reo

The Department of Physics offers programs leading either to a Bachelor of Science degree or a Bachelor of Arts degree in physics. The Department of Physics and the Department of Electrical Engineering jointly offer a program leading to the Bachelor of Science in Engineering degree in engineering physics; see the Engineering Physics section of the College of Engineering and Computer Science section for more information on this program. Students in secondary education may earn the Bachelor of Arts degree in physics and enter the Professional Year Experience program of the College of Education and Human Services for licensure in physics physical sciences, life sciences/physics, or earth sciences/physics.

Minimum requirements for the Bachelor of Science and Bachelor of Arts degrees in physics include successfully completing the required courses, with a GPA of at least 2.0 for all physics courses, as well as completing university and college degree requirements.

In addition to the required courses, the department requires, for the Bachelor of Science degree, that every physics major take PHY 494 or 499. The physics major who plans to pursue graduate study also is strongly urged to take PHY 480, 481, 482 and additional mathematics courses.

Degree Requirements—Physics

Bachelor of Science Degree

General Education	40
Required Substitutions:	
Area I: MTH 229 and 230 (counted in related course requirements)	
Area V: PHY 240/200, 242/202, 244/204 (counted in departmental core requirements)	
Area VI: Choose one: AFS 200, ATH 241, ATH 242, HST 220, HST 221, PHL 200, FIN 205, EES 260, PSY 110, SM 205	
Departmental Core Requirements	
PHY 240/200, 242/202, 244/204	16

PHY 260, 371, 372	10
PHY 315, 316, 322	10
PHY 420, 450, 451, 452, 460, 461, 462	25
PHY 494 or 499	6

Related Course Requirements	
MTH 229, 230, 231, 232, 233, 253	25
MTH 332, 333	6
CHM 121/125, 122/126, 123/127	15
EGR 153 or equivalent	4
Electives	33

Total	190
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Since the order in which courses are taken is important, students should closely follow the suggested programs for the required courses.

Bachelor of Arts Degree

General Education	40
Required Substitutions:	
Area I: MTH 229 and 230 (counted in math requirements)	
Area V: PHY 240/200, 242/202, 244/204 (counted in departmental core requirements)	
Area VI: Choose one: AFS 200, ATH 241, ATH 242, HST 220, HST 221, PHL 200, FIN 205, EES 260, PSY 110, SM 205	

Departmental Core Requirements	
PHY 240/200, 242/202, 244/204	16
PHY 260, 371, 372, 450	13
PHY 315, 316, 322, 420, 451	16
Math Course Requirements	
MTH 229, 230, 231, 232, 233	25
Related Course Requirements	
CHM 121/125, 122/126, 123/127	15
MTH 253 or 255	3
Electives	27

Electives outside the College of Science and Mathematics and the College of Engineering and Computer Science

General Electives	28
Total	183

The results of the mathematics placement examination are used to determine the initial mathematics course best suited for the student. Students who do not have a strong science and mathematics background might choose to delay PHY 240, 242, 244. Since this will impact course selection in the junior and senior years, these students should work closely with their departmental advisors. Since the order in which courses are taken

is important, students are encouraged to consult with their departmental advisor before registering for classes each quarter. Programs for teaching licensure based on a B.A. in physics require PHY 107/117 and substitution of PHY 446 and 447 for two of the three courses PHY 322, 372, 451.

The Department of Physics encourages students interested in interdisciplinary study to pursue a dual major in physics and a related discipline. A departmental advisor will help students arrange a suitable program of study. In addition, there are three formal physics degree option programs that follow.

Degree Requirements—Physics/ Earth and Environmental Science Option

Bachelor of Science Degree

The Department of Physics, in cooperation with the Department of Earth and Environmental Sciences, offers a program leading to a Bachelor of Science in Physics with a geophysics option. This option is designed for students who plan a career in physics in a geology-related setting or who plan to pursue graduate study in geophysics.

Students following the physics program with the geophysics option must meet the requirements of the basic physics degree program. In addition, the following courses are required.

General Education	40
Required Substitutions:	
Area I: MTH 229 and 230 (counted in related course requirements)	
Area V: PHY 240/200, 242/202, 244/204 (counted in departmental core requirements)	
Area VI: Choose one: AFS 200, ATH 241, ATH 242, HST 220, HST 221, PHL 200, FIN 205, EES 260, PSY 110, SM 205	
Departmental Core Requirements	
PHY 240/200, 242/202, 244/204	16
PHY 260, 371, 372	10
PHY 315, 316, 322	10
PHY 420, 450, 451, 452, 460, 461, 462	25
PHY 494 or 499	6
Related Course Requirements	
MTH 229, 230, 231, 232, 233, 253 or 255	28
MTH 332, 333	6
CHM 121/125, 122/126, 123/127	15
EGR 153 or equivalent	4
Earth and Environmental Science Option Requirements	
EES 251, 253	6
EES 252, 254	3

PHY 422, 423, 420	13
Electives chosen from EES 255, 311, 333, 424, 450, 463	12
Total	194

In addition to these required courses, the department recommends that students pursuing the geophysics option also take EES 434 and participate in the geophysics seminars.

Degree Requirements—Physics/ Computing Option

Bachelor of Science Degree

The Department of Physics offers a program leading to a Bachelor of Science degree in physics with a computing option. This option is designed for students who plan a career in any of the many areas of theoretical or experimental physics that involve extensive use of digital computers.

Students following the physics program with the computing option must meet the requirements of the basic physics degree program. In addition, the following courses are required.

General Education	40
Required Substitutions:	
Area I: MTH 229 and 230 (counted in related course requirements)	
Area V: PHY 240/200, 242/202, 244/204 (counted in departmental requirements)	
Area VI: Choose one: AFS 200, ATH 241, ATH 242, HST 220, HST 221, PHL 200, FIN 205, EES 260, PSY 110, SM 205	
Departmental Core Requirements	
PHY 240/200, 242/202, 244/204	16
PHY 260, 371, 372	10
PHY 315, 316, 322	10
PHY 420, 450, 451, 452, 460, 461, 462	25
PHY 494 or 499	6
Related Course Requirements	
MTH 229, 230, 231, 232, 233, 253 or 255	28
MTH 332, 333	6
CHM 121/125, 122/126, 123/127	15
EGR 153 or equivalent	4
Electives	3
Computing Option Requirements	
CS 240, 241, 242	12
MTH 257	3
CS 400	4
CS 316, 317	8
Total	190

Students who wish to learn about microprocessors may wish to take further courses in computer engineering, such as CEG 260, 320, and 360. For these students, CEG 430 and 431 may be taken in place of CS 317.

Degree Requirements—Physics/Biology Option

Bachelor of Science Degree

The Department of Physics, in cooperation with the Department of Biological Sciences, offers a program leading to a Bachelor of Science degree in physics with a biology option. This option is designed for students who plan a physics career in a biology-related setting or who want to pursue graduate study in biophysics or medical physics. Students following the physics program with the biology option must meet the requirements of the basic physics degree program. In addition, the following courses are required.

General Education	40
Required Substitutions:	
Area I: MTH 229 and 230 (counted in related course requirements)	
Area V: PHY 240/200, 242/202, 244/204 (counted in departmental requirements)	
Area VI: Choose one: AFS 200, ATH 241, ATH 242, HST 220, HST 221, PHL 200, FIN 205, EES 260, PSY 110, SM 205	
Departmental Core Requirements	
PHY 240/200, 242/202, 244/204	16
PHY 260, 371, 372	10
PHY 315, 316, 322	10
PHY 420, 450, 451, 452, 460, 461, 462	25
PHY 494 or 499	6
Related Course Requirements	
MTH 229, 230, 231, 232, 233, 253 or 255	28
MTH 332, 333	6
CHM 121/125, 122/126, 123/127	15
EGR 153 or equivalent	4
Biology Option Requirements	
BIO 111, 112, 115	12
CHM 211, 212	12
Electives chosen from: BIO 210, 212, 213, 271, 306, 312, 471, 492, BMB 421, 422	11
Total	195

Physics Education

Students who wish to teach physics in Ohio public high schools can pursue the B.A. degree in physics. Upon completion of this undergraduate degree program in the College of Science and Mathematics, students then must complete the Professional Educators Program (PEP) through Wright State's College of Education and Human Services. Graduates of the B.A. in physics and the Professional Educators Program are eligible to seek licensure from the Ohio Department of Education in Physics/Physical Sciences. Licensure in Life Sciences/Physics, or Earth Sciences/Physics can also be sought upon completion of programs based on the B.A. in Physics and the PEP.

Degree Requirements—Physical Sciences Education

Bachelor of Arts Degree (Physics/Physics Licensure Program)

The Adolescence to Young Adult Physics Licensure Program is based on an undergraduate Bachelor of Arts degree in physics.

General Education	40
Required Substitutions:	
Area I: MTH 229 and 230 (counted in related course requirements)	
Area V: PHY 240/200, 242/202, 244/204 (counted in departmental requirements)	
Area VI: Choose one: AFS 200, ATH 241, ATH 242, HST 220, HST 221, PHL 200, FIN 205, EES 260, PSY 110, SM 205	
Departmental Core Requirements	
PHY 240/200, 242/202, 244/204	16
PHY 107/117, 260, 315, 316, 371, 420, 446, 447, 450	31
Physics Elective: PHY 322 or 372 or 451	3
Related Course Requirements	
BIO 111, 112, 115	12
CHM 121/125, 122/126, 123/127	15
EES 251/252, 253/254, 255/256	13.5
MTH 229, 230, 231, 232, 233	25
MTH 253 or 255	3
Electives	
Electives outside the College of Science and Mathematics and College of Engineering and Computer Science (must include ED 221, 223, 301, 303, EDS 333)	27

Bachelor of Arts Degree (Physical Sciences)

The Adolescence to Young Adult Physical Sciences Licensure Program is based on an undergraduate Bachelor of Arts degree in physics.

General Education	40
Required Substitutions:	
Area I: MTH 229 and 230 (counted in related course requirements)	
Area V: PHY 240/200, 242/202, 244/204 (counted in departmental requirements)	
Area VI: Choose one: AFS 200, ATH 241, ATH 242, HST 220, HST 221, PHL 200, FIN 205, EES 260, PSY 110, SM 205	
Department Core Requirements	
PHY 240/200, 242/202, 244/204	16
PHY 107/117, 260, 315, 316, 371, 420, 446, 447, 450	31
Physics elective: PHY 322 or 372 or 451	3
Related Course Requirements	
BIO 111, 112	8
CHM 121/125, 122/126, 123/127	15
CHM 211/215, 212/216, 213/217, 312/314, 451	28.5
EES 251/252, 253/254, 255/256	13.5
MTH 253 or 255	3
MTH 229, 230, 231, 232, 233	25
Electives	27
Electives outside the College of Science and Mathematics and College of Engineering and Computer Science (must include ED 221, 223, 301, 303, EDS 333)	
Total	210

Degree Requirements—Life Sciences/Physics Education**Bachelor of Arts Degree**

The Adolescence to Young Adult Life Sciences/Physics Licensure Program is based on an undergraduate Bachelor of Arts degree in physics.

General Education	40
Required Substitutions:	
Area I: MTH 229 and 230 (counted in related course requirements)	
Area V: PHY 240/200, 242/202, 244/204 (counted in departmental requirements)	
Area VI: Choose one: AFS 200, ATH 241, ATH 242, HST 220, HST 221, PHL 200, FIN 205, EES 260, PSY 110, SM 205	
Departmental Core Requirements	
PHY 240/200, 242/202, 244/204	16

PHY 107/117, 260, 315, 316, 371, 420, 446, 447, 450	31
Physics elective: PHY 322 or 372 or 451	3
Related Course Requirements	
BIO 111, 112, 115, 210, 211, 212, 213, 230, 231, 492	36
CHM 121/125, 122/126, 123/127	15
EES 251/252	4.5
MTH 229, 230, 231, 232, 233	25
MTH 253 or 255	3
Electives	27
Electives outside the College of Science and Mathematics and College of Engineering and Computer Science (must include ED 221, 223, 301, 303, EDS 333)	
Total	201.5

Degree Requirements—Earth Sciences/Physics Education**Bachelor of Arts Degree**

The Adolescence to Young Adult Earth Sciences/Physics Licensure Program is based on an undergraduate Bachelor of Arts degree in physics.

General Education	40
Required Substitutions:	
Area I: MTH 229 and 230 (counted in related course requirements)	
Area V: PHY 240/200, 242/202, 244/204 (counted in departmental requirements)	
Area VI: Choose one: AFS 200, ATH 241, ATH 242, HST 220, HST 221, PHL 200, FIN 205, EES 260, PSY 110, SM 205	
Departmental Core Requirements	
PHY 240/200, 242/202, 244/204 16	
PHY 107/117, 260, 315, 316, 371, 420, 446, 447, 450	31
Physics elective: PHY 322 or 372 or 451	3
Related Course Requirements	
BIO 112	4
CHM 121/125, 122/126, 123/127	15
EES 201 or 304, 251/252, 253/354, 255/256, 309, 311 or 424, 401, 417, 419 or 442 or 399, 499	43.5
MTH 229, 230, 231, 232, 233	25
MTH 253 or 255	3
Electives	27
Electives outside the College of Science and Mathematics and College of Engineering and Computer Science (must include ED 221, 223, 301, 303, EDS 333)	
Total	207.5

Physics Honors Program

The Department of Physics offers an honors program designed to provide superior students with a program that offers greater creativity and intellectual challenge. Students who wish to participate in this program must apply to the department during the spring quarter before they plan to enter the honors program. Interested students should have at least a 3.0 GPA overall and at least a 3.0 in physics courses numbered 300 and above. To graduate with honors in physics, students are required to complete PHY 480, 481, 482, and nine hours of honors research (499) with grades of B or better.

Dual Major Program in Physics and Mathematics

The dual major in physics and mathematics is designed for students majoring in physics who wish to gain a strong background in mathematics. This can be particularly valuable for those planning graduate study.

Since the physics major program for the Bachelor of Science degree requires 34 hours of mathematics, and the mathematics component of the major requires 45 hours, 11 additional hours of mathematics need to be taken. To earn a dual major, students must take the following mathematics courses:

1. MTH 229, 230, 231, 232, 233, 332, 333	31
2. MTH 255 and 355 (Matrix Algebra) must be taken in place of MTH 253. If MTH 253 has already been taken, the student must still take MTH 355.	6
3. Eight hours of electives must be selected from restricted lists of courses. For a student in this program, the natural choice would be to select three courses from MTH 431, 432, 433, 480, 481, 482.	8
Total	45

In addition, students must

1. take CS 141 and CS 142 or EGR 153 or equivalent (total eight hours); and
2. complete the other nonmathematical requirements of the physics major.

Minor Programs

Students majoring in another department may earn a minor in physics. A minor can help prepare students for an interdisciplinary graduate program or serve as a supportive credential for employment. The minor requires a minimum of 35 credit hours as specified in the following.

Minor Requirements—Physics

Departmental Requirements	35
<i>Required Courses</i>	
PHY 240/200, 242/202, 244/204 (or PHY 111/101, 112/102, 113/103, 240, 242)	16
PHY 260, 315, 371	10
<i>Elective Courses</i>	
(Nine hours chosen from the following courses as approved in advance by the Department of Physics)	
PHY 316, 322, 372, 400, 401, 420, 432, 450, 451, 452, 460, 461, 462, 494 (maximum three hours)	

Psychology

Professors Bennett, Colle, Flach (chair), Hennessy, H. Klein, Kurdek, A. Nagy, Shebilske, Tsang

Associate Professors Claflin, Edwards (associate chair), Gilkey, Kruger, Miller, Schneider, Shalin, Steele-Johnson, Watamaniuk, Weber

Assistant Professors Bowling, Hochstein (WSU Lake Campus), LaHuis

The Department of Psychology offers programs leading to the Bachelor of Science and the Bachelor of Arts degrees. Both degree programs are designed to give students a broad introduction to contemporary psychology. The Bachelor of Arts curriculum offers the greatest flexibility in electives within and outside psychology. The Bachelor of Science curriculum is recommended for students planning careers in academic, research, or professional fields. Both degree programs offer enough flexibility so students can supplement their individual program with additional courses both inside and outside psychology, allowing students to tailor their degree to meet individual goals. Students considering graduate school should consult with undergraduate program advisors early in their academic career.

Students must have earned 30 hours and have a cumulative GPA of 2.25 and after at least two PSY classes have a PSY GPA of 2.25 or better to transfer into the Department of Psychology. Once students have been accepted by the department, they are invited to attend a degree planning session. Included in this session is information about curriculum choices, degree completion, graduate school, and career opportunities. Because of the breadth of psychology, a variety of different educational options are available; therefore, students should continue to work with the psychology undergraduate program advisors to facilitate progress towards their

degree. Students must earn at least 76 credit hours in departmental requirement courses for a Bachelor of Arts and at least 84 credit hours for a Bachelor of Science degree.

Department Requirements —Psychology/Academic Concentration

Degree requirements for all psychology programs are subject to change. Check with the department office for the current degree requirements.

Degree Requirements—Psychology

Bachelor of Arts Degree

The B.A. curriculum is designed to provide opportunities to achieve four outcomes.

Outcome 1:

Be familiar with current theory and research in diverse areas of psychology

Outcome 2:

Have fundamental research design and mathematical/statistical skills needed to understand psychological science

Outcome 3:

Communicate effectively in both written and oral forms

Outcome 4:

Have skills in integrating and communicating about psychological knowledge

General Education	56
Required Substitutions	
Area 1: STT 160	
Area III: PSY 105 required selection	
Area VI: PSY 110	
Psychology Core Requirements	68
Seven Core Courses (at least 2 from row 1 and 2 from row 2)	
Row 1: PSY 321, 361, 371, 391	28
Row 2: PSY 311, 331, 341, 351	
Row 3: PSY 304, 306, 307, 309	
PSY 301, 302, 303	12
Two PSY 487 seminar courses	8
Psychology Electives	20
Required Supporting Courses	3–5
MTH 126 or 127	
College Requirement	27

27 credit hours outside the College of Science and Mathematics and the College of Engineering

and Computer Science

General Electives	31–33
Total	187

Bachelor of Science Degree

The B.S. curriculum is designed to provide opportunities to achieve five outcomes.

Outcome 1:

Be familiar with current theory and research in diverse area of psychology

Outcome 2:

Have fundamental research design and mathematical/statistical skills needed to understand psychological science

Outcome 3:

Communicate effectively in both written and oral forms

Outcome 4:

Have skills in integrating and communicating about psychological knowledge

Outcome 5:

Have advanced research design, mathematical/statistical, and computing skills needed to critically evaluate and conduct research in a self-selected area of psychology

General Education	56
Required Substitutions	
Area 1: STT 160	
Area III: PSY 105 required selection	
Area VI: PSY 110	
Psychology Core Requirements	76
Seven Core courses (at least 2 from row 1 and 2 from row 2 and 1 from row 3)	
Row 1: PSY 321, 361, 371, 391	28
Row 2: PSY 311, 331, 341, 351	
Row 3: PSY 304, 306, 307, 309	
PSY 301, 302, 303	12
PSY 402 or STT 265	4
Two PSY 487 seminar courses	8
PSY 323, 333, 343, 353, 363, 373, 393 (choose one)	4
Psychology Electives	20
Required Supporting Courses	11–13
MTH 128 or 129	3–5
CS 141 and 142 (or two other programming classes)	8
General Electives	42–44
Total	187

Psychology Honors Program

Students interested in being admitted to the psychology honors program should apply in their junior year. After acceptance, students enroll in

one departmental honors seminar each academic year. Part-time students must complete one honors seminar prior to graduation. All students must complete an honors thesis, for which academic credit is granted.

Psychology Minor Program

The psychology minor is available for students who would like to gain a better understanding of psychological processes. Students in a wide variety of majors may benefit by supplementing their knowledge and skill with a stronger background in psychology. The minor is flexible and allows students to select subsets of courses that are appropriate for particular majors. Students in biology, business, communication, computer science, education, nursing, and sociology may find that the psychology minor enhances their educational goals. The minor may be fulfilled by completing the following requirements.

Minor Requirements—Psychology

Departmental Core and Elective Requirements

Area I: Introductory Psychology (8–9 hours)
PSY 105, PSY 110

Area II: Core Courses (at least 12 hours). Chooses from the following:

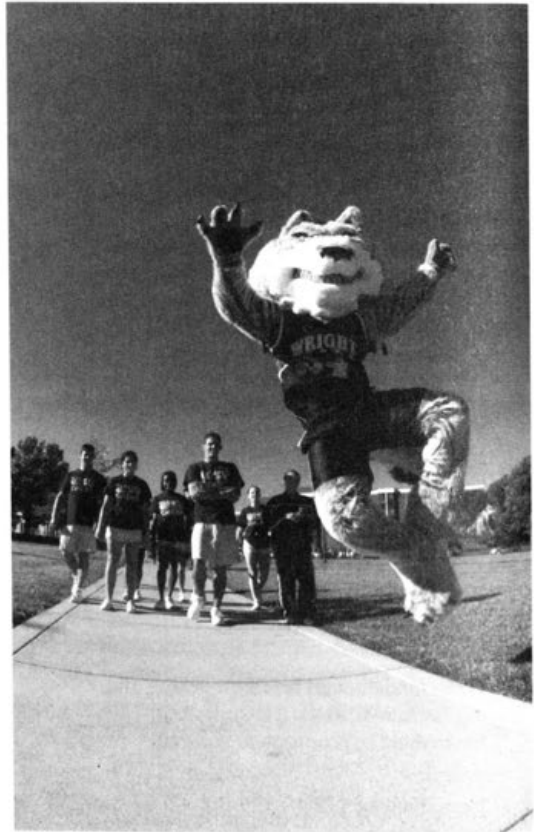
PSY 321, PSY 361, PSY 371, PSY 391
PSY 311, PSY 331, PSY 341, PSY 351
PSY 304, PSY 306, PSY 307, PSY 309

Area III: Psychology Electives

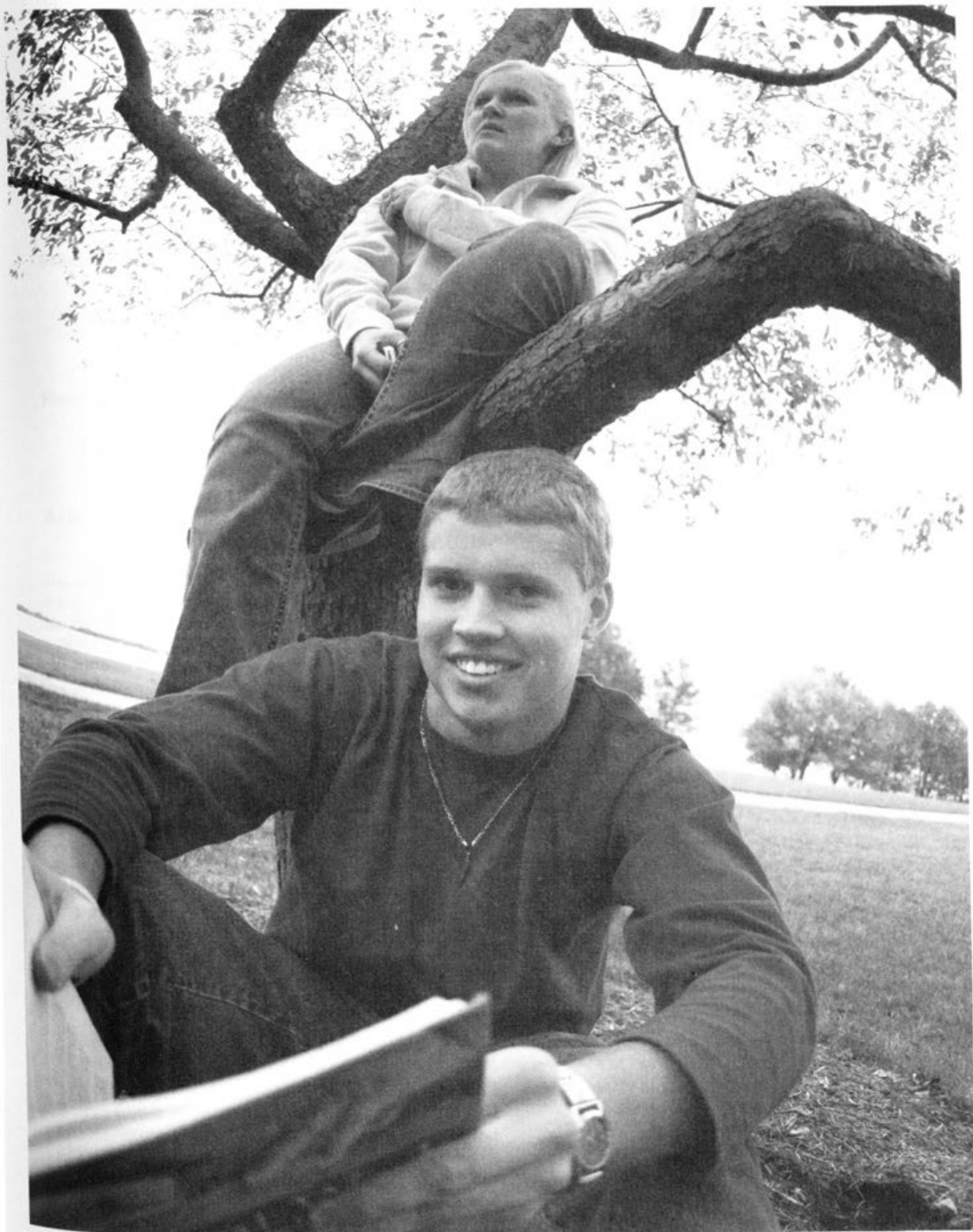
At least 16 hours of Psychology elective courses must be completed. Any 200 level or 300 level course, including core courses beyond those required in Area II, will satisfy this requirement.

Area IV: Total hour and GPA requirements

Total of 36-quarter hours from Areas I, II, and III above with a GPA of at least 2.0 in psychology courses



LAKE CAMPUS



Dean, Lake Campus James E. Sayer (interim)

Associate Dean, Lake Campus Gregory F. Schumm

Faculty

Professors Cavanaugh, Fulk, Kich, Knapke (Emeritus), Stuckman (Emeritus)

Associate Professors Buell (Emeritus), Campbell, Carlson (Emeritus), Ciampaglio, Custenborder (Emerita), Gill (Emeritus), Hiskey, Kremer, McDermott (Emeritus), Moliterno (Emeritus), Schumm, Schwartz, Steinberg

Assistant Professors Cico (Emerita), Cubberly, Daniel, Dunlap, Hagen (Emerita), Hawley, Hochstein, Levy, Rife (Emeritus), Rosengarten, Snyder (Emerita), Strickland (Emeritus), Vandergrift, Wetter (Emeritus), Wilson

Instructors Brewer, Elick, Laman

The Lake Campus

The Wright State University–Lake Campus is located on the north shore of Grand Lake St. Marys between Celina and St. Marys. The Lake Campus is easily accessible to the residents of Auglaize, Mercer, Van Wert, Shelby, Allen, and Darke counties and provides a variety of general education courses and certificate programs, as well as associate, bachelor's and master's degrees. The Lake Campus also offers a number of graduate courses. Degrees that may be earned completely at the Lake Campus include the Bachelor of Education in Early Childhood Education, the Bachelor of Science in Organizational Leadership, the Bachelor of Science in Nursing completion program; Master's degrees in Education, Educational Leadership, Reading, and Business Administration; and a number of Associate of Arts, Associate of Science, Associate of Applied Business, Associate of Applied Science, and Associate of Technical Study degrees. The Lake Campus also offers a variety of preprofessional and certificate programs, and participates in the Ohio Transfer Module.

The Wright State University–Lake Campus was created in 1962 and became a regional branch campus of Wright State University in June 1969. In 1972, the college moved to its present location on 173 acres on the north shore of Grand Lake St. Marys.

The administrative wing of Dwyer Hall houses the Admissions/Registrar's Office; Financial Aid/Bursar's Office; academic advising, testing, and career placement offices; and the offices of the dean and associate dean. A receptionist is available during business hours to answer questions, set up appointments with an academic advisor, and give students descriptive material.

In late 2007 the Lake Campus will begin a construction project to renovate existing space and build new science labs and a multipurpose center. The construction is to be completed in 2009.

Quarterly class schedules for classes held at the Lake Campus are available by contacting the Lake Campus, 1-800-237-1477 (in Ohio and select Indiana counties) or (419) 586-0300.

Admission

The process for becoming a new student at Wright State University–Lake Campus involves several important steps. This section describes and explains these steps so that students can understand and follow the process and make informed decisions about services that might help in the registration process.

Steps for Students New to Wright State University–Lake Campus:

1. Apply and complete admission process
2. Inquire about financial aid, if needed
3. Take placement tests
4. Meet with an advisor
5. Register for classes
6. Pay quarterly fees
7. Attend orientation program
8. Seek academic assistance

Ohio students who have graduated from a state chartered high school and completed the recommended college preparatory curriculum are eligible to apply for unconditional admission. Out-of-state students, however, must present evidence of above-average ability to do college work. Students who do not meet the above criteria will be reviewed on an individual basis. Based upon the review of a completed admission file, the applicant may be offered unconditional or conditional admission to the university. Some applicants who do not meet the requirements may have their admission deferred pending satisfactory completion of developmental or remedial courses.

Admission to the university does not automatically guarantee admission to a major program of study; major programs of study have specific entrance requirements that must be met.

High School Preparation

Wright State University has adopted a college preparatory curriculum policy. The university requires applicants to have a high school record that meets the recommendations of the *Advisory Commission on Articulation between Secondary Education and Ohio Colleges*. Students who do not meet the high school course requirements may be admitted to the university with conditions and will be required to remove deficiencies before they can

graduate from Wright State University.

The following table summarizes the college preparatory course requirements and indicates how deficiencies may be removed.

<i>Subject Area/Requirement</i>	<i>Removal of Deficiencies</i>
English —four units	Pass ENG 101*
Mathematics —three units (including Algebra I and II)	Pass MTH 126 or MTH 127*
Social Sciences —three units (including two units in history)	Complete two general education courses in history and an additional general education course in either history or human behavior.
Science —three units	Complete the general education requirement in natural sciences. A one-term lecture/ lab course removes up to one unit of deficiency.
Foreign Language —two units (in the same foreign or classical language through level II)	Pass courses through the 103 level or demonstrate proficiency by examination.
Arts —one unit	Complete one general education course in Fine and Performing Arts.

* Initial enrollment in English and mathematics courses will be determined by placement testing. Algebra I and Foreign Language I may be taken in eighth grade.

Degree-Seeking Students

Beginning Freshman

Students beginning college with the intention of earning a degree must submit the following to be considered for admission:

1. Undergraduate application
2. \$30 nonrefundable application fee
3. High school transcript (partial one at time of application, final one at end of senior year) or official GED scores
4. College Preparatory Curriculum Completion Form
5. Official ACT or SAT scores

Transfer Students

Students who have registered for 12 or more quarter hours at another college are considered transfer students. To be considered for admission as a transfer student, students must submit the following:

1. Undergraduate application

2. \$30 nonrefundable application fee
3. Official transcript from each college previously attended
4. High school transcript (required of the following students)
 - High school graduates of 1986 or before who are transferring with fewer than 12 quarter (nine semester) hours
 - High school graduates of 1987 or after who are transferring with fewer than 45 quarter (30 semester) hours
5. College Preparatory Curriculum Completion Form (required of the following students)
 - High school graduates of 2000 or after who are transferring with fewer than 45 quarter (30 semester) hours. High school graduates of 1987 or after with fewer than 45 hours must fulfill any high school deficiencies even though they do not need to submit the college prep form.

All transfer students with at least a C average are eligible for admission to the university; admission to most colleges and schools requires a higher GPA. Students with less than a 2.0 GPA who have been out of college for more than five years do not have to petition to transfer to Wright State. However, those students with less than a 2.0 GPA who have attended college within the past five years must petition for admission. The petition forms are available in the Student Services Office and must be submitted along with the other applications materials outlined above. Students who have been dismissed from another institution will not be considered for admission to Wright State for one calendar year after their dismissal.

Students who have been granted "fresh start" or "academic bankruptcy" at another institution must have earned a minimum of 12 hours at the same institution before Wright State will recognize the recalculated GPA for admission purposes.

Transfer Credit Regulations

1. Students' credits must have been earned at an institution that is regionally accredited.
2. Transfer students are subject to all Wright State requirements, including minimum course grades and GPAs, for entrance to particular majors and programs. Transfer students who must repeat courses to meet these requirements will follow the same rules for repeating courses as students who begin at Wright State (see "Scholastic Policies" in this catalog). Grades of "pass" and "credit" are considered for transfer credit.

In compliance with the Ohio Transfer and Articulation Policy, credit for all grades of D and higher in college-level classes will

be posted for students who have earned an Associate of Arts or Associate of Science degree from an Ohio public institution.

Ohio Transfer and Articulation Policy was revised effective Fall 2005 for grades in courses completed outside an Associate of Arts or Associate of Science degree. As of Fall 2005 and thereafter, a student must have earned a course grade of D or higher (according to the definition of grades currently used at Wright State) to transfer credit for that course. Previous policy required that a student earn a grade of C or higher to transfer credit for the course. However, students who completed courses before Fall 2005 with a grade of D may request that credits be posted for those courses. Forms for submitting these requests are available in the Office of the Registrar.

3. Any credit earned through correspondence study or as a part of an off-campus study program are subject to the same regulations as other transfer credit.
4. Students who have completed three-fourths or more of the Wright State quarterly credit hour requirement for a course or sequence may receive credit for that course or sequence. For example, two three-credit hour courses in English composition may be considered the equivalent of ENG 101 and 102 (8 credit hours).
5. Lake Campus academic advisors will determine how students' transfer credits are to be used toward the requirements for their major. If there are exceptions to the application of transfer credit, the dean of the major college or school involved will make the decision.
6. The Office of Undergraduate Admissions will notify students of their admission to University College's Academic Advising Center or the appropriate college.
7. General education requirements for most transfer students will be determined on a course-by-course evaluation.
8. Students who have already received a baccalaureate degree from an accredited institution (see Transfer Credit Regulation number 1) and wish to pursue a second baccalaureate degree will automatically receive 138 quarter credit hours. They will be ranked as seniors. An advisor will determine how many credits these students will have to complete to receive their second degree.
9. All religion courses taught by a religion department in any state college or university will be considered for transfer credit. These courses are subject to other applicable Transfer Credit Regulations. Religion courses taught by all other colleges must be approved by the

religion department before transfer credit is granted.

10. Transfer students with a minimum GPA of 3.4 or higher may be eligible to graduate with Latin honors (summa cum laude, magna cum laude, or cum laude). For the purpose of determining honors, the student's GPA at Wright State will be recalculated to include all posted transfer grades; however this recalculated GPA will not be reflected on the students academic record. The recalculated GPA may result in the loss of honors status at graduation.
11. The Wright State University grading system does not award "+" and "-" grades. Students transferring courses and associated grades to Wright State University from institutions under a "+" and "-" grading system will be evaluated and receive a transfer grade based on the Wright State University grading system. For example, grades of C+, C, or C- will be evaluated as a C for transfer to Wright State University

Transfer Appeals Process

A student disagreeing with the application of transfer credit has the right to appeal the decision. After receiving a statement of the application of transfer credit and contact information within the receiving college, the student will have 90 days from the date on the statement in which to consult the receiving college for clarification and to file an appeal through the Office of the Registrar. The appeal will be acted on by the petitions committee of the college or school in which the student is enrolled, then reviewed by the university-level Undergraduate Petitions Committee, which will send written notification of its decision to the student and the department.

Returning Students

Students who have not attended Wright State for four or more consecutive quarters must apply for readmission through the Office of Undergraduate Admissions. There is no additional application fee, and official transcripts are required only from the schools students have attended since they were last at WSU.

Wright State Students who have been dismissed may apply for readmission by petition after they have remained out of school for four quarters.

Students who have not attended Wright State for three years (12 consecutive quarters) may wish to take advantage of the Fresh Start Rule. This rule may allow students to have their earlier GPA recalculated. Interested students should contact the Office of Undergraduate Admissions for more information. Other Admission and Enrollment Categories

Nondegree Undergraduate Students

Students who wish to take courses at Wright State but who do not intend to work toward a degree at this time can register as nondegree students. Students may take as many courses as they like, as long as they meet the requirements for each course. To be eligible to register as nondegree students, they must have graduated from an accredited high school or passed a high school equivalency test (GED).

To apply, students need only fill out a simple application/registration form and pay a \$10 one-time registration fee. Later, if they decide to enter a degree program, they can file their credentials and pay an additional \$20 application fee. Non-degree work normally can be applied toward a degree program.

Nondegree students may receive academic advising and may participate in any of the services offered at the Lake Campus, including tutoring and developmental education courses.

Teacher Licensure

Undergraduate students and students who have degrees from other colleges within the university may obtain teaching licenses upon completion of all the requirements of the College of Education and Human Services.

High School Students/PSEO

High school students may participate in the Post Secondary Education Option (PSEO) while enrolled in their local high school. Entrance and eligibility requirements regarding this opportunity can be obtained by contacting the Lake Campus Registrar's Office.

Veterans' Benefits

Active duty personnel and Vietnam-era veterans are eligible for the new G.I. Bill if they served without a break in service after October 19, 1984, through June 30, 1985. Only veterans separating after June 30, 1988, are eligible. Eligibility terminates 10 years from date of separation from active duty.

The All-Volunteer Force Educational Assistance Program (New G.I. Bill) can be used by a veteran who entered on active duty at any time after June 30, 1985, and paid into the program.

Educational assistance for members of the Selected Reserve (Chapter 1606) is also a part of the G.I. Bill. They are entitled to education benefits with a six-year contract by actively participating in the selected reserve program.

Applications are available from the Student Services office at the Lake Campus or from any Department of Veteran Affairs office. Educational opportunities are available for children and surviving spouses of veterans whose deaths or permanent total

disabilities were service-connected. Spouses and children of servicemen and women declared missing in action or prisoners of war are also eligible.

Graduation Requirements for Associate Degrees

To graduate with an associate degree from Wright State University-Lake Campus, all students must fulfill the following requirements:

Credit Hours—A minimum of 90 credit hours must be earned in approved courses for an associate degree.

Grade Point Average—A minimum cumulative grade point average of 2.0 must be earned for courses taken at Wright State University.

Residence Regulations—A minimum of 20 credit hours in the student's major concentration must be earned at Wright State University for completion of an associate degree.

Students must also fulfill all program requirements set by departments, colleges, and schools, some of which exceed these university minimums; see individual program requirements for details.

Responsibility for registering in appropriate classes, scheduling, and fulfilling all university and program requirements for graduation rests with the student.

Students who are continuously enrolled or eligible to enroll continuously (students are eligible to enroll continuously if they are enrolled during any part of the calendar year) may elect to meet either the university requirements that were in effect when they entered Wright State or the university requirements that came into effect while they were continuously enrolled. Students who were not enrolled continuously must meet the university requirements in effect when they are readmitted to the university.

Students must meet the college or school requirements in effect when they are admitted to the college or school, and they must meet the program requirements in effect when they are admitted to a specific program or major. Students who are not enrolled continuously may be required to meet the college, school, or program requirements in effect when they are readmitted to a program. In addition, students who have not completed their program in seven years may have their college, school, or program requirements revised.

Bachelor's Degree Requirements are included in the main campus section of the catalog.

Registration

After new students have met with their advisor, they are ready to register for classes. Registration

information and dates are announced in the quarterly schedule of classes and online at <http://www.wright.edu/admissions/registration/>. Once students have advisor approval (if required), they may register online through Wings Express or in person at the window of the Office of the Registrar. Continuing students should check the quarterly class schedule for the specific date they may begin to register.

Paying Fees

The procedures for paying fees depend on which registration period is used. Students will find fee payment deadlines for each registration period in the university calendar by visiting the bursar Web site at <http://www.wright.edu/bursar/>. This information is also published in the quarterly schedule of classes. Students who register early but do not submit their payment by the required due date will have their registration canceled in order to make classroom space available to other students. Students who register during open registration must pay all fees and charges by the published fee payment deadline. Their registration will not be canceled. Late fees of up to \$250 may be assessed for late registration or late payment. See the Registrar's Web site at <http://www.wright.edu/registrar/>, or the quarterly class schedule, for refund and drop/withdrawal dates. Wright State University reserves the right to make policy and fee changes at any time during the year.

Advising

Academic advisors help students select courses, schedule classes, become oriented to the university, and develop academic success strategies. During advising, students are given information about appropriate academic services, such as tutoring or developmental education courses.

Financial Aid

The Office of Financial Aid makes every effort to help students who would be unable to attend school without receiving some form of financial aid. No student interested in attending Wright State University–Lake Campus should fail to apply because of financial limitations. If necessary, students should meet with a financial aid staff member to discuss any questions or concerns they may have regarding a financial aid package.

All students who are interested in applying for need-based financial aid are required to submit the Free Application for Federal Student Aid (FAFSA). With the exception of four-year scholarships, eligibility is granted on a three-quarter basis. To determine summer and/or academic year financial aid, completion of the FAFSA is required for

the academic year that you plan to attend. The registration questions will require you to indicate the quarter(s) you plan to attend, and if you will register for full, three-fourths, or part-time. All students must apply for financial aid on a yearly basis. The FAFSA form can also be filed online at <http://fafsa.ed.gov>.

Services

Specific services are available at the Lake Campus in the following areas.

Admission, Registration, and Fees

The staff at the Lake Campus can help students complete the application for admission. Lake Campus staff can also accept registrations for any Wright State University class and process the collection of student fees.

Financial Aid

Many forms of financial assistance are available to deserving students whose personal and family financial resources are insufficient to meet their educational expenses. For complete information, contact the financial aid officer at the Lake Campus. Counselors are available to discuss your situation and the various possibilities for financial assistance.

Student Employment

A limited amount of student employment is available to students who wish to work on campus to help finance their education or just to earn extra spending money. Students can obtain information about job opportunities through the Office of Student Services. For on-campus jobs, students may be employed through the Federal Work-Study Program or the regular employment program.

Scholarships

The Lake Campus provides numerous scholarships for both high school seniors and continuing students. The scholarships are awarded on both academic and need-based criteria. Students apply by filling out a Lake Campus Scholarship application. Awards range from a \$200 book scholarship to full tuition. Students are also eligible for some main campus scholarships that can be used at the Lake Campus. Inquire at the Lake Campus Financial Aid Office.

Counseling and Testing

Professional counseling is provided free to Lake Campus students. This service includes evaluation of personal interests, abilities, needs, and values; placement and aptitude testing; and help in selecting careers. Services are by appointment. Although counseling and testing are available to everyone,

freshmen students are especially urged to use these benefits so they can begin planning early for their career development.

Academic Advising

Academic advising is provided to all Lake Campus students. Through this service, students can get advice in planning the schedule of courses they will take during their college career. Students must consider General Education requirements, classes in specialized fields, courses that must be taken in sequence, and electives. Advisors make course recommendations, assist students in planning and scheduling, and provide individualized academic information to help ensure that students meet degree requirements and gain appropriate career skills. Incoming freshmen students are required to meet with an academic advisor.

Tutoring

The Lake Campus makes every effort to help students who experience academic difficulty. In addition to counseling to improve study skills, tutoring is provided in English, reading, mathematics, and most other subject areas.

Academic and Instructional Services

Academic and Instructional Services (AIS) provides opportunities for both students and adjunct faculty to ensure their success in academe.

For students at all levels of academic proficiency, such opportunities include tutoring, study sessions, and independent/individualized instruction in conjunction with another department and/or through AIS itself. These services, which are free to any Lake Campus student who wishes to participate in them, allow students to improve basic skills or to progress more rapidly in certain subjects or skills. In addition, AIS assists students with disabilities to realize their potential by providing such supplemental services as extended testing arrangements, test proctoring, counseling, tutoring, and textbooks on CD.

For adjunct faculty, AIS focuses on instructional practices and academic policies/procedures, as well as providing opportunities to become acquainted with the teaching experience of other colleagues at the Lake Campus. It is the goal of AIS to enhance the faculty's exposure to different modes of instruction and ways of teaching the skills needed by students in today's world.

Job Placement

The Lake Campus assists graduates in locating suitable employment. Employers frequently contact the Lake Campus for their hiring needs, and a job board is maintained. A Career Services Department, with a faculty advisor, is also available.

Library

A vital part of the Lake Campus is the library. The Lake Campus library is a full-service facility offering full-text versions of over 6,000 journals, 125 databases, and access to 42 million books via OhioLINK. The library has over 30,000 volumes on hand and can obtain interlibrary loans from over 4,000 libraries in the United States. Multimedia reserves can also be obtained through OhioLINK.

Veterans' Services

The staff in the Office of the Registrar at the Lake Campus will help qualifying individuals prepare the necessary forms and will follow through with the regional Veterans Administration office to ensure that students receive their VA benefits.

Bookstore

Operated by the Lake Campus, the Cottage Bookstore provides textbooks, academic supplies, WSU apparel, and gifts.

YMCA Membership

While enrolled at the Lake Campus, each student has full access to the facilities at the Auglaize/Mercer Counties Family YMCA.

Student Organizations and Activities

The student body plays an active role in organizing activities and participating in campus organizations. Any Lake Campus student is eligible to take an active part in the planning of campus activities. The following organizations and activities are among those supported by the student body.

The College Community Arts Council is supported by the Lake Campus, local corporate gifts, grants from the state of Ohio, and ticket sales. Performances include not only drama and music of all types but also ballet and residencies specifically for area public schools. Lake Campus students can attend all Arts Council functions at no cost.

Athletic Programs include men's and women's basketball and women's volleyball.

The Business Professionals of America (BPA) is the national organization for students preparing for work in the business world. BPA is for students at Wright State University-Lake Campus who are interested in developing personal, leadership, and office skills. Lake Campus students have won numerous awards at national BPA competitions.

Organizational Leadership Degree Requirements

See General Education Requirements

General Education	56
Required Courses:	
Area VI: CNL 210	
Curriculum Content	67
Integrated Leadership Focus:	19
COM 101 and one additional COM course	
Choose one: CS 205, 206, 207	
Choose one: ENG 330, 333, 344	
Choose one: PHL 331, PHL 312, PSY 304, SOC 310, SOC 345, PLS 371, PLS 431, PLS 345/URS 345, WMS 300	
Organizational Leadership Concentration:	48
Choose two prerequisites for admission:	8
Any 100/200 entry-level course in Accounting, Marketing, or Technical Marketing, Economics, Statistics, or Finance.	
Foundations:	16
EDL 301, 302, 303, 304	16
Fundamentals:	16
Required: MGT 304	
Choose three: LAW 300, MGT 321, MGT 485, PLS 434, REL/PHL 371, URS/PLS 346, URS 423, URS 424, URS 450, URS 470, 475	
Skills Integration:	8
EDL 494, 495	
Associate's Degree or Electives	70
Total	193

Bachelor of Science (B.S.) Early Childhood Education

B.S.Ed. Degree Leading to Licensure

The Pre-K-3 licensure program prepares students to teach children three years of age through grade three. The Pre-K-3 license qualifies you for employment in day care, nursery school, Headstart, public and private preschools, and primary (K-3) elementary grades. Students will be required to work with children from birth through third grade in Phases 1, 2, and 3. The program offers courses in general education, professional education, and curriculum content.

Most curriculum content classes should be completed within the student's first two years. Some of the courses must be completed before ED or EDE classes may be taken. Admission to the College of Education and Human Services is required before Professional Education Courses may be taken. For admission to the College of Education, the student must have earned 45 credit hours, have a GPA of 2.5 or higher, and have a passing score, established by the college, on the math, writing and reading sections of the Praxis I test.

Early Childhood Education (Pre-K-3, Ages 0-8)

For degree requirements refer to Education and Human Services requirements in the University catalog.

Bachelor of Science (B.S.) Middle Childhood Education

Pre-Professional Program in Middle Childhood B.S.Ed. degree Without Licensure

Important Note: The B.S.Ed. in Middle Childhood does NOT lead to licensure. Students must complete a graduate-level, fifth-year program and Praxis tests in order to be eligible for a license in Middle Childhood.

Middle Childhood concentrations include Language Arts, Mathematics, Science and Social Sciences. Students choose two of these four areas of study. Availability of coursework at the Lake Campus in the four concentration areas varies. Contact the Lake Campus Academic Advisors for more information about concentration offerings at the Lake Campus.

Middle Childhood Education

For degree requirements refer to Education and Human Services requirements in the University catalog.

Associate of Arts (A.A.) and Associate of Science (A.S.) Degrees

Biological Sciences (A.S.)

The associate degree in biological sciences is designed to provide students with a generalized background that may lead into almost any field of biology, including botany, zoology, aquatics, oceanography, forestry, agriculture, and medical arts.

Requirements for the Associate of Science Degree

General Education Requirements	40
Required Substitutions:	
Area I: MTH 229, 230, 231 or MTH 228 or 229 and STT 264, 264 (counted in supporting courses)	
Area V: CHM 121/125, 122/126, 123/127 (counted in supporting courses)	
BIO 112, 114, 115 (counted in departmental requirements)	
Departmental Requirements	27
BIO 112, 114, 115, 312, 316	22
BIO 313, 314, or 315	5
Required Supporting Courses	36-38
CHM 121/125, 122/126, 123/127	15
MTH 229, 230, 231 or	
MTH 228 or 229 and STT 264, 265	13-15
CS 205	4
PSY 110	4
Total (minimum requirement)	103/105

Business and Administration (A.S.)

The associate degree in business and administration is designed to prepare students to pursue a bachelor's degree in business with majors in accountancy, economics, finance, management, and marketing. A knowledge of basic business functions and an awareness of the businessperson's responsibilities in the political, social, and economic order of society are fundamental objectives of the program.

Requirements for the Associate of Science Degree

General Education Requirements	48
Required Substitutions:	
Area I: MTH 228 (counted in supporting courses)	
Area III: EC 204, 205 (counted in departmental requirements)	
Departmental Requirements	36-40
ACC 204, 205, 206**	8-12
EC 204, 205	8

MS 204, 205	8
TMG 204, TMK 200, TAD 200*	12
Required Supporting Courses	16-18
MTH 128 or 129	3-5
MTH 228	5
CS 205	4
ENG 330	4
Total (minimum requirement)	100/106

*These courses are applicable to the baccalaureate program with special conditions.

**ACC 206 is required for Accounting and Finance majors

Chemistry (A.S.)

An associate degree in chemistry prepares students for work as entry-level technicians for a baccalaureate degree program. Entry-level jobs in chemical research, medical laboratories, pharmaceuticals, petroleum industry, plastics, and chemical manufacturing are all possibilities.

Requirements for the Associate of Science Degree

General Education Requirements	40
Required Substitutions:	
Area I: MTH 229, 230 (counted in related course requirements)	
Area V: CHM 121/125, 122/126, 123/127 (counted in departmental requirements)	
Departmental Requirements	33
CHM 121/125, 122/126, 123/127	15
CHM 211/215, 212/216, 213/217	18
Related Course Requirements	22
MTH 229, 230, 231	15
ENG 333	4
COM 101 or 102 or 141	3
Total (minimum requirement)	95

Communication (A.A.)

An associate degree in communication prepares students for a variety of entry level careers in the public and private sector or the media. It also serves as a seamless articulation to the Bachelor of Arts degree in Communication where students can major in mass communication, organizational communication, and communication studies.

Requirements for the Associate of Arts Degree

General Education Requirements	56
Departmental Requirements	35
COM 101, 104, 130, 152, 200, 256	21
TOA 101, 102, 103, 105	6
TMK 200	4
CS 207	4
Electives*	
Total (minimum requirement)	95

*Student should consult with academic advisor on recommended electives to be taken.

History (A.A.)

The associate degree in history prepares students to pursue a baccalaureate degree in history. Through exposure to a broad spectrum of human experience in the past and present, students come to understand their relationship to other human beings and the structure of society. The history major is useful to students who wish to seek a career in such fields as teaching, journalism, archival work, government, politics, and law.

Requirements for the Associate of Arts Degree

General Education Requirements	56
Departmental Requirements	6
HST 211, 212	6
Electives*	28
Total (minimum requirement)	90

*Student should consult with academic advisor on recommended electives to be taken.

Liberal Studies (A.A.)

An associate degree in liberal studies prepares students for a variety of entry-level careers or for a seamless articulation into the baccalaureate degrees in Liberal Studies or Organizational Leadership programs. The program allows students to tailor their academic program to their needs and interests across a wide range of disciplines.

Requirements for the Associate of Arts Degree

General Education Requirements	56
Core Requirements	24
Humanities	8
Fine Arts	8

Social Sciences	8
Related Hours	20
Professional Component Electives	12
Electives*	4
Total (minimum requirement)	96

*Student should consult with academic advisor on recommended electives to be taken.

Psychology (A.A.)

The associate degree in psychology prepares students to pursue a baccalaureate degree in psychology. It is designed to provide a broad introduction to contemporary psychology.

Requirements for the Associate of Arts Degree

General Education Requirements	53
Required Courses:	
Area I: STT 160 (counted in related course requirements)	
Area III: PSY 105 (counted in departmental requirements)	
Area VI: PSY 110 (counted in departmental requirements)	
Departmental Requirements	16
PSY 105, 110	8
PSY 311, 341	8
Related Course Requirements	5
STT 160	5
Electives*	13
**MTH 126 or 127	3 or 5
Total (minimum requirement)	93 or 95

*Student should consult with academic advisor on recommended electives to be taken.

**Recommended for students planning careers in academics, research, or professional fields. Required in B.S. degree.

Social Work (A.A.)

The associate degree in social work is designed to prepare students for further baccalaureate study in social work. Career opportunities for the college graduate with a major in social work are found in governmental, private, and voluntary agencies. Typical agencies include family services, children's services, public schools, hospitals, mental health centers, and probation/parole boards. A career in social work requires self-discipline, emotional

stability, and intellectual creativity. Students should be interested in people of widely varying ages, abilities, and backgrounds.

Requirements for the Associate of Arts Degree

General Education Requirements	56
Departmental Requirements	12
SW 270, 271	12
Related Requirements	26
COM 104	4
PSY 110, 200, 341	12
SOC 221, 332	7
Electives*	4
Total (minimum requirement)	95

Students planning to complete their baccalaureate degree in social work at Wright State University should consult the undergraduate catalog and the Social Work Department Handbook for admission requirements to the program.

*Student should consult with advisor on recommended electives to be taken.

Sociology (A.A.)

The associate degree in sociology prepares students for further baccalaureate work. A major in sociology increases students' understanding of the organization and functioning of human social groups and of the methods and techniques for analyzing these social units. The study of sociology prepares students for careers in law, hospital administration, corrections, and government/community services.

Requirements for the Associate of Arts Degree

General Education Requirements	56
Student should consult with advisor on any special general education requirements.	
Departmental Requirements	35
SOC 200, 221, 320, 332	15
PSY 110, 200, 341	12
Electives*	8
Total (minimum requirement)	91

*Student should consult with advisor on recommended electives to be taken.

Technical Associate Degree Programs:

Associate of Applied Business (A.A.B.)

Associate of Applied Science (A.A.S.)

Associate of Technical Studies (A.T.S.)

Associate degrees in the following technical programs prepare students for career entry after two years of study. Technical education programs provide the type of career training desired by business, industry, governmental units, and many other employers. Technical programs will articulate to the bachelor's degree in Organizational Leadership.

Financial Management Technology (A.A.B.)

The associate degree in financial management combines courses from accounting, economics, and management, thus providing a broad background in the universal subject areas of today's business environment. Graduates of the program obtain positions in bookkeeping and computerized accounting systems or as an accounting assistant, management trainee, assistant manager, production supervisor, foreman, or small business manager.

Requirements for the Associate of Applied Business Degree in Financial Management

General Education Requirements	16
ENG 101, 102	8
Electives*	8
Departmental Requirements	53
Related Course Requirements	20
ENG 330 or 333 (required)	4
Elective*	4
Total (minimum requirement)	97

*Student should consult with advisor on recommended electives to be taken.

Contact the Lake Campus Academic Advisors for program checksheets.

Computer-Aided Drafting Design Technology (A.A.S.)

Computer-Aided Drafting Design Technology majors prepare detailed drawings based on rough sketches, specifications, and calculations made by engineers and designers. They also calculate the strength, quality, quantity, and cost of materials. Final drawings contain a detailed view of the object as well as specifications for materials used, procedures followed, and other information to implement the job. They are also capable of working with computer-assisted drawing and preparing graphic display materials. WSU-LC CADD graduates will be able to choose from a wide range of jobs. Many graduates become draftspersons, CAD operators, design technicians, quality control technicians, or technical illustrators.

Requirements for the Associate of Applied Science Degree

General Education Requirements	19
ENG 101, 102	8
Communication Elective	3
GE electives	8
Departmental Requirements	40
Related Course Requirements	33
ENG 330 or 333 (required)	4
Total (minimum requirement)	92

Office Information Systems (A.A.B.)

The Associate of Applied Business in Office Information Systems offers three options for students to focus their interest.

Administrative Assistant Option

The administrative assistant in today's business world is a professional who must make decisions and use communication skills and writing expertise to advance the public image of the executive for whom he or she works. Administrative assistants must be proficient in all areas of office procedure and be skilled in operating office equipment in addition to assisting the executive. The office information systems program encompasses all of these necessary skills while giving the student a well-rounded background.

Legal Administrative Assistant Option

Preparing legal documents for court action or any correspondence involving legal acts, rights, offenses, and ethics requires a precise

understanding of form and terminology. Accuracy is vital for the legal administrative assistant. The legal administrative assistant program combines training and practice on office machines and in office procedures, while teaching the nomenclature of law. Included is a basic introduction to terminology, procedures, business administration, and economics. Electives permit students to broaden knowledge in areas of career specialty or personal interest.

Medical Administrative Assistant Option

In addition to furnishing classroom techniques for perfecting basic office skills (such as typing, speedwriting, composition, and the use of office machines), the medical administrative assistant technology program incorporates fundamental courses in administration, accounting, economics, and computer skills. It also provides exacting instruction in medical terminology, medical office procedure, medical coding, biology, and psychology.

Requirements for the Associate of Applied Business Degree in Office Information Systems

General Education Requirements	24
ENG 101 and 102	8
PSY 105	4
Electives*	12
Departmental Requirements**	56-60
Related Requirements**	20
Total (minimum requirement)	100-104

*Student should consult with academic advisor on recommended electives to be taken.

**Departmental and related requirements may vary based on option selected.

Contact the Lake Campus Academic Advisors for program checksheets.

Information Technology: Graphic Communications and Design (A.A.B.)

Graduates who major in Graphic Communication and Design have a wide choice of careers in the desktop publishing field. A graduate may work as a graphic designer with a company that creates promotional material and advertising campaigns as well as catalogs, brochures, instruction manuals, newsletters, technical literature, and many other items requiring visual design. Publishing companies use desktop publishing to lay out books, magazines, and other publications. A graduate may work as a Webmaster, from designing and creating Web pages to maintaining the site.

Requirements for the Associate of Applied Business Degree in Office Information Systems: Information Technology

General Education Requirements	22
Departmental Requirements	58
Related Requirements	20
Total (minimum requirement)	100

Contact the Lake Campus Academic Advisors for program checksheets.

Office Information Systems: One-Year Certificate Program

The holder of a One-Year Certificate in today's business world is a professional who must make decisions and use communication skills and writing expertise to advance the public image of the executive for whom he or she works. Administrative assistants must be proficient in all areas of office procedures and be skilled in operating office equipment in addition to assisting the executive. The Office Information Systems and Certificate Programs encompass all of these necessary skills, while giving the student a well-rounded background. The One-Year Certificate is recognized by the state of Ohio as a training program which qualifies students for entry-level administrative assistant positions.

Requirements for the Office Information Systems: One-Year Certificate Program

A total of 45 credits from a clearly identifiable concentration of courses selected from the Office Information Systems curriculum and related business courses comprise this certificate program. All courses must be approved by the academic advisor prior to registering.

Total (minimum requirement)	45
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Associate of Technical Study (A.T.S.)

The Associate of Technical Study degree uses courses from existing two-year technical programs along with the General Education base to fulfill a unique educational need. Intended for individuals with specialized technical interests, the Associate of Technical Study degree allows the student to develop, with the guidance of a designated faculty advisor, an individualized technical program. This program must establish an educational goal and include a concentration of courses required to

accomplish that goal.

A minimum of 45 credit hours of the total program must be in a clearly identifiable area of concentration. This technical component may be developed by combining courses from two or more academic disciplines. General Education requirements and basic course requirements must account for a minimum of 42 total credit hours. The Associate of Technical Study degree requires from 90 to 110 total credit hours; graduation requirements are the same as for other A.A.S. and A.A.B. degrees.

Many job opportunities in industry and business today require that technicians, programmers, and designers have exposure to a broad range of technologies. The Associate of Technical Study degree provides needed flexibility that industry finds essential as it continues to diversify and meet the needs of a changing industrial market.

Students can choose to follow a pre-designed program, such as business applications, computer graphics, or operations management, or they may modify a program, or design one to meet their own needs. Advising is a key component of these programs. Interested students should start by contacting a Lake Campus advisor to discuss the unique opportunities available through A.T.S. degrees.

Requirements for the Associate of Technical Study Degree

General Education Requirements	23
ENG 101, 102	8
Communication Elective	3
GE Electives	12
Technical Core Requirements*	48
Related Course Requirements	19-24
CS 205	4
Math: Level 3 or higher	3-5
TEG 141 or SOC 221	2-3
Electives**	10-12
Total (minimum required)	90-95

*This component may be developed by combining courses from two or more of the academic programs in the technical area. This development is done through the guidance of a designated faculty advisor.

**Student should consult with Academic Advisor on recommended electives.

Certificates

Certificate in Management

The Certificate in Management is a sequence of courses designed to prepare students to become effective managers. The course offerings are for persons who have had little or no formal training in management principles. Courses meet either during the week or on weekends, allowing a convenient time choice. All certificate classes may be applied toward an associate degree.

Requirements for Certificate in Management

Courses	20
TMG 204, 210, 270, 280	13
COM 203	3
TMK 200	4
Total (minimum required)	22

Certificate in Desktop Publishing

The Certificate in Desktop Publishing is a sequence of courses designed for the person in the office wishing to learn or implement desktop publishing skills.

Requirements for Certificate in Desktop Publishing

Courses	9
TOA 241, 242, 243	9
Total (minimum required)	9

Certificate in Word/Information Processing

The Certificate in Word/Information Processing is a three-quarter sequence of courses designed for the person wishing to upgrade or to implement word processing skills in an office environment.

Requirements for Certificate in Word/Information Processing

Courses	9
EDT 220, 221, 222	9
Total (minimum required)	9

Certificate in Computer-Aided Drafting (CAD)

The Certificate in CAD is a 24-credit-hour sequence of courses designed to provide a thorough understanding of how the computer-aided drafting process functions in industry. The certificate program covers the fundamental principles and methods used in designing a product with AutoCAD. The certificate is designed for individuals who have a thorough understanding of drafting principles, but no CAD experience is assumed. All courses meet during the week or on Saturdays. Contact the Lake Campus for a listing of certificate options offered in CAD.

Certificate in Microcomputer Applications

The Certificate in Microcomputer Applications is a three-quarter sequence of courses designed to provide a thorough coverage of many practical uses of microcomputers. A broad range of applications will be presented along with fundamental computer operations to prepare students to use microcomputers effectively at home or in business. Depending on the chosen major, some or all courses may be applicable toward an associate degree.

Requirements for Certificate in Microcomputer Applications

Courses	12
CS 205, 206, 207	12
Total (minimum required)	12

Certificate in PhotoShop Design and Applications

The Certificate in PhotoShop Design and Applications is a three-quarter sequence of courses designed for instruction in the proper use of Adobe PhotoShop techniques, such as filters, screens, backgrounds, photographs, and other desktop publishing applications to be integrated with other software programs.

Requirements for Certificate in PhotoShop Design and Applications

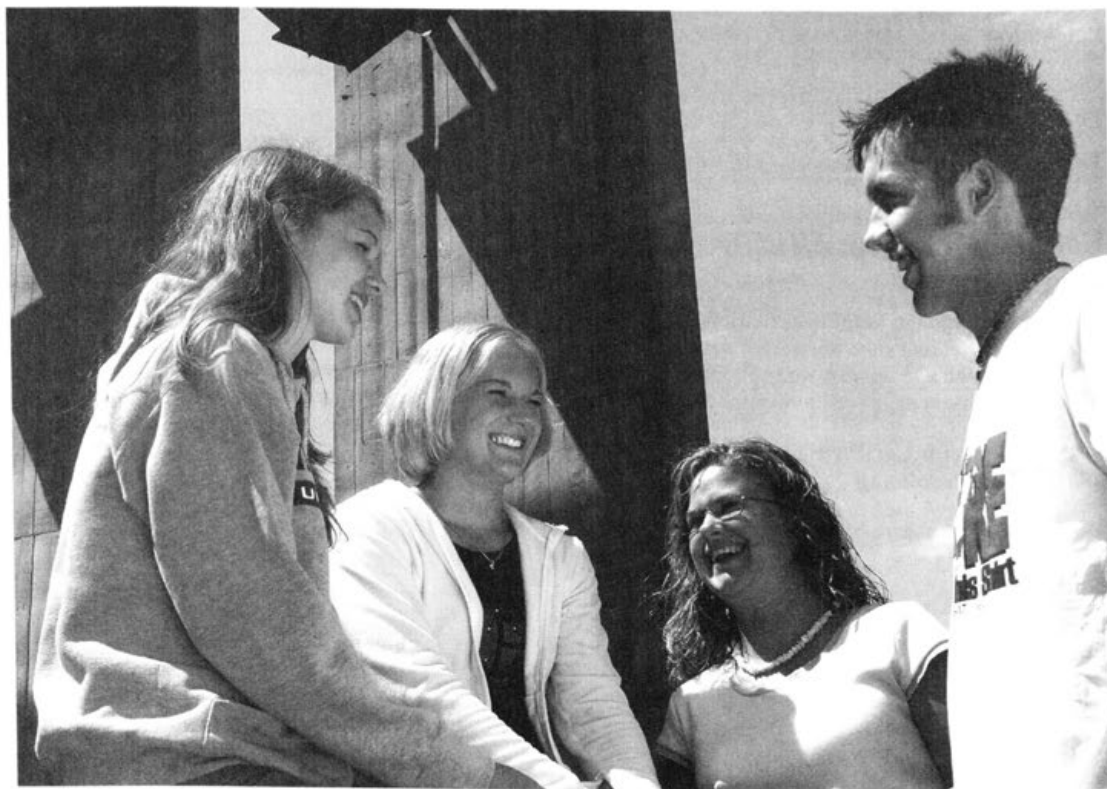
Courses	9
Beginning PhotoShop Applications	3
Intermediate PhotoShop Applications	3
Advanced PhotoShop Applications	3
Total (minimum required)	9

Certificate in Software Applications

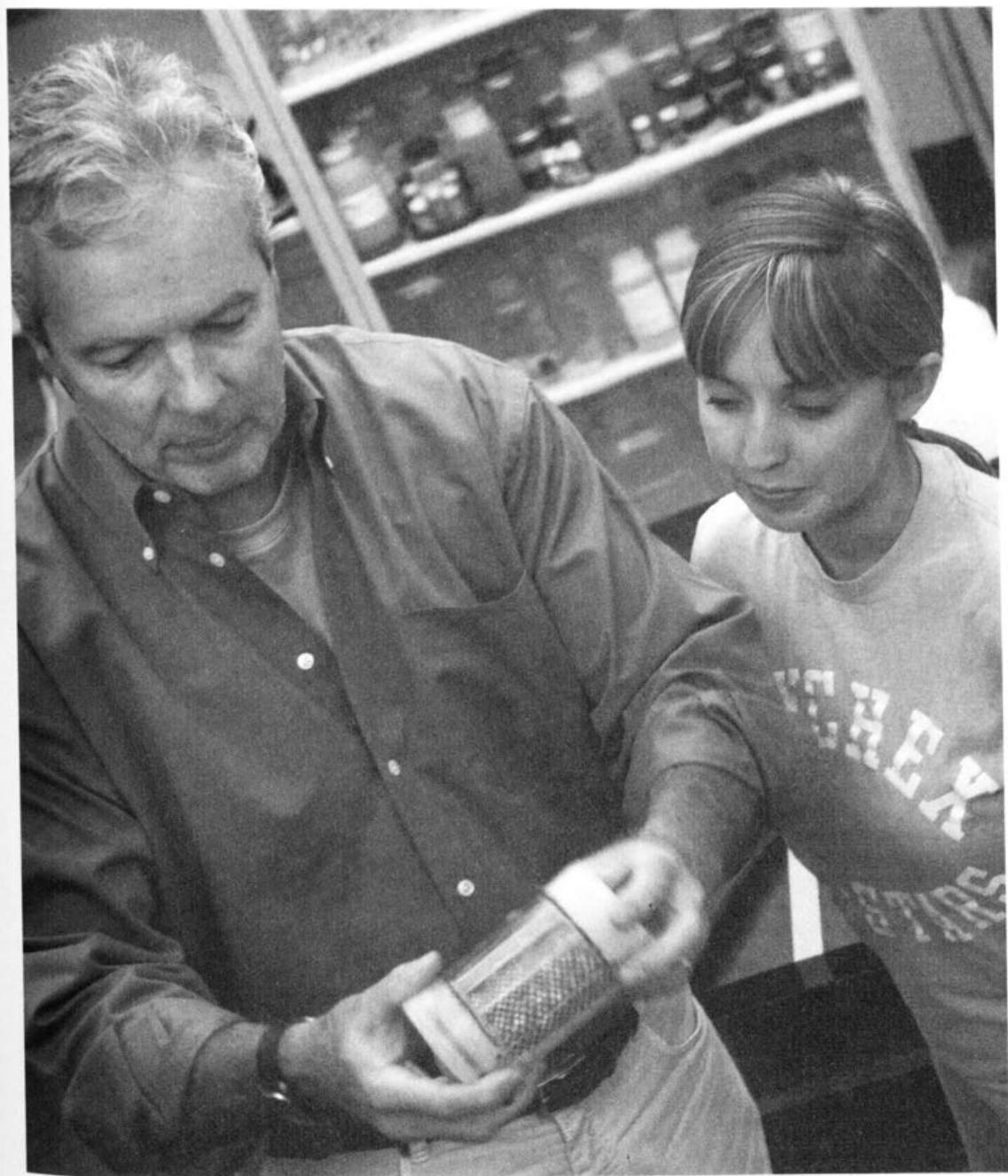
The Certificate in Software Applications is a selection of nine one-credit-hour software courses offered through the Office Information Technology department. Several one-credit hour courses are offered each quarter and topics vary. Students must complete nine of the one-day courses within the academic calendar (summer included) to be eligible to receive the certificate. Consult the Lake Campus quarterly class schedule for a listing of topics, dates, and times offered.

Certificate in Graphics/Design

The Certificate in Graphics/Design is an 18-credit-hour selection of courses designed for the associate/bachelor degree graduates or individuals currently employed in the graphics field who desire to add current software and procedures that will assist them in their current positions. Students will select courses from the two-year Graphics Design program. Prerequisite knowledge may be required in some courses. Advisor approval required.



COURSE DESCRIPTIONS



ABBREVIATION AND PAGE NUMBERS

Throughout this catalog, specific courses are indicated by abbreviations followed by a number. The list below shows the abbreviations for the different areas of study, followed by the name of each area of study and the page on which the course descriptions for the areas begin.

ACC	Accountancy, p. 216
AED	Art Education, p. 217
AES	Aerospace Science, p. 217
AFS	African and African American Studies, p. 218
ANT	Anatomy, p. 218
ARA	Arabic, p. 218
ART	Art and Art History, p. 218
ASL	American Sign Language, p. 221
ATH	Anthropology, p. 221
ATR	Athletic Training, p. 223
AVI	Aviation, p. 224
BMB	Biochemistry, p. 228
BIO	Biological Sciences, p. 224
BME	Biomedical Engineering, p. 229
BUS	Business, p. 230
CEG	Computer Engineering, p. 230
CHM	Chemistry, p. 234
CHI	Chinese, p. 234
CLS	Classics, p. 239
CL	Clinical Laboratory Science, p. 238
CNL	Counseling, p. 240
COM	Communication, p. 240
CPL	Comparative Literature, p. 243
CS	Computer Science, p. 243
CSE	Comparative Studies, p. 245
CST	Comparative Studies, p. 245
CTE	Career and Technical Education, p. 246
DAN	Dance, p. 246
DDT	Computer-Aided Drafting and Design Technology, p. 250
DEV	Developmental Education, p. 251
DN	Danish, p. 251
EC	Economics, p. 251
ECO	Economic Education, p. 253
ED	Education, p. 253
EDE	Education — Early Childhood Education, p. 255
EDL	Educational Leadership, p. 256
EDS	Education — Special Education, p. 257
EDT	Educational Technology, p. 257
EE	Electrical Engineering, p. 258
EES	Earth and Environmental Sciences, p. 262
EGR	Engineering, p. 266
ENG	English, p. 267
EP	Engineering Physics, p. 271
EXB	Exercise Biology, p. 272
FIN	Finance, p. 273
FR	French, p. 274
GEO	Geography, p. 276
GER	German, p. 278
GR	Greek, p. 280
HED	Health Education, p. 281
HEB	Hebrew, p. 281
HLT	Health Education, p. 282

HST	History, p. 284
HPR	Health, Physical Education, and Recreation, p. 282
IB	International Business, p. 286
ISE	Industrial and Systems Engineering, p. 286
IT	Information Technology, p. 288
ITA	Italian, p. 289
JPN	Japanese, p. 289
LA	Liberal Arts, p. 290
LAT	Latin, p. 290
LAW	Business Law, p. 291
LI	Linguistics, p. 291
M&I	Microbiology and Immunology, p. 291
ME	Mechanical and Materials Engineering, p. 292
MGT	Management, p. 296
MIL	Military Science, p. 297
MIS	Management Information Systems, p. 298
MKT	Marketing, p. 299
ML	Modern Languages, p. 300
MP	Motion Pictures, p. 301
MS	Management Science, p. 302
MTH	Mathematics, p. 303
MUA	Music: Applied Music, p. 308
MUE	Music Ensembles, p. 309
MUS	Music, p. 311
NUR	Nursing, p. 316
OL	Organizational Leadership, p. 319
P&B	Physiology and Biophysics, p. 325
PHR	Pharmacology, p. 321
PHL	Philosophy, p. 319
PHY	Physics, p. 322
PLS	Political Science, p. 325
POR	Portuguese, p. 330
PSY	Psychology, p. 330
REL	Religion, p. 334
RHB	Rehabilitation, p. 336
RST	Regional Studies, p. 338
RUS	Russian, p. 338
SM	Science and Math, p. 339
SOC	Sociology, p. 340
SPN	Spanish, p. 343
STT	Statistics, p. 345
SW	Social Work, p. 346
TH	Theatre Arts, p. 351
UH	University Honors, p. 362
URS	Urban Studies, p. 362
UVC	University College, p. 364
VOE	Vocational Studies, p. 365
WMS	Women's Studies, p. 366

Technical Course Abbreviations

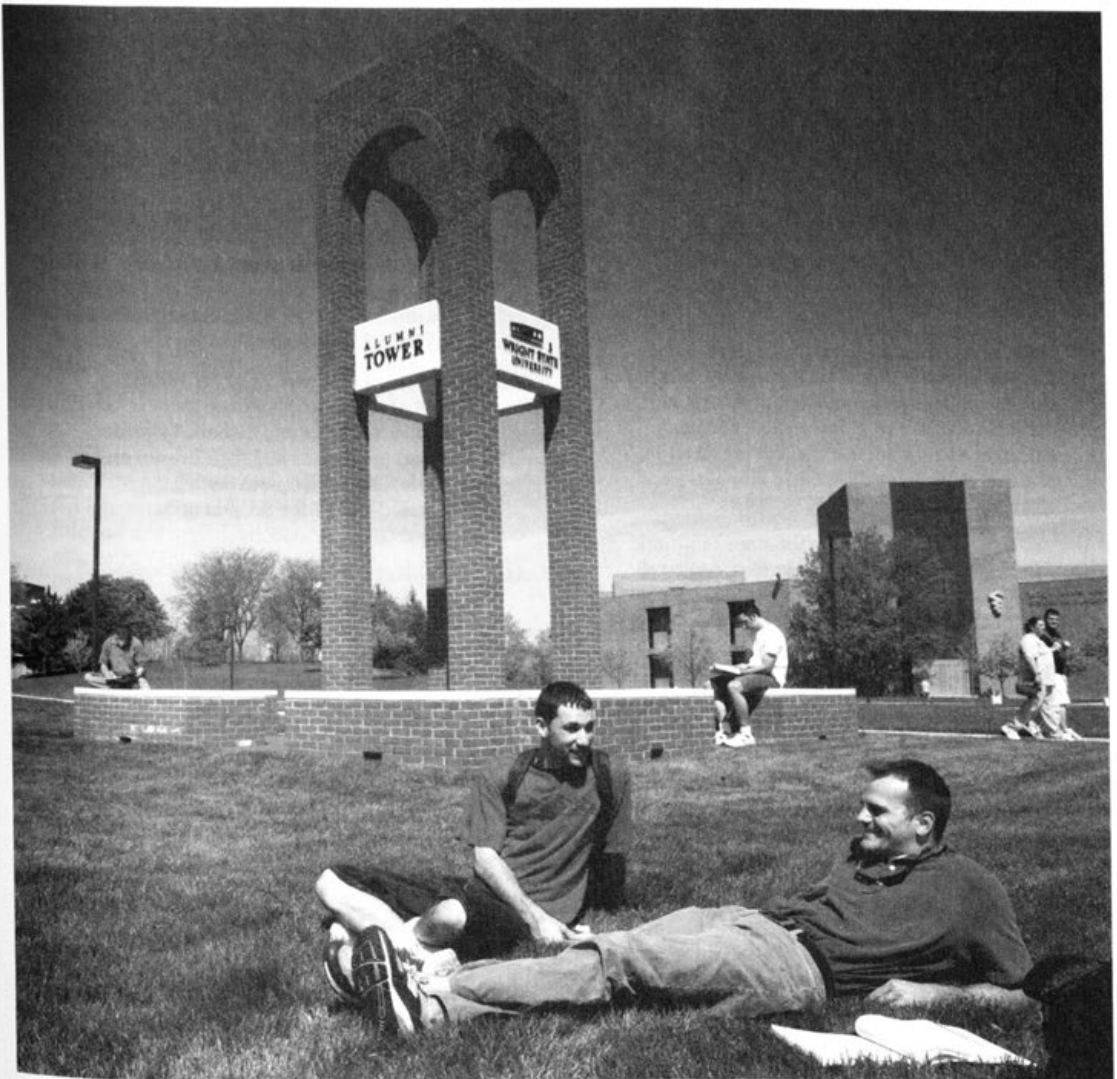
TEG	Engineering Technology, p. 349
TAC	Technical Accountancy, p. 347
TAD	Technical Administration, p. 348
TEN	Technical English, p. 351
TMG	Technical Management, p. 359
TMK	Technical Marketing, p. 359
TMT	Technical Mathematics, p. 360
TOA	Technical Office Administration, p. 360
TSS	Technical Study Skills, p. 361

Course Numbering System

- 0-99** Developmental precollege-level courses.
- 100-499** Lower division courses intended for undergraduate credit only. The first digit indicates the general level of the course: 1 for a first-year course, 2 for a second-year course, 3 for a third-year course, 4 for a fourth-year course. Courses in this category that are acceptable for graduate credit carry alternate numbers in which the first digit only is changed to a 5 or a 6 according to the definitions below.

- 500-599** Courses that carry graduate credit only in a major field different from that of the department offering the course. Most such courses will be alternate designations of courses normally numbered 300-499.
- 600-699** Courses that carry graduate credit in any major field and have alternate designations in which the first digit is a three or four when taken for undergraduate credit.
- 700-999** Courses intended for graduate credit only.

The number following the hyphen indicates the number of credit hours for that course. Courses designated by consecutive numbers are related courses; courses to be taken in sequence are so designated in the descriptions.



A list of course abbreviations and an explanation of the course numbering system can be found on pages 214 and 215. Not all courses described here are offered every quarter or every year. For a more detailed listing of prerequisites, enrollment restrictions, and specific courses offered in a particular quarter, consult the Wright State class schedule published each fall, winter, spring, and summer.

Accountancy/ACC

ACC 204 Accounting Principles I (Credits: 4)

Introduction to accounting for business enterprises. Includes analysis of the effect of transactions on financial position, preparation of financial statements, the recording process, and measurement issues and reporting requirements for assets.

ACC 205 Accounting Principles II (Credits: 4)

Introduction to accounting for business enterprises. Includes analysis of the effect of transactions on financial position, preparation of financial statements, reports for managers, and financial statement analysis.

Prerequisite: ACC 204

ACC 207 Career Planning in Accounting (Credits: 1)

This course is designed to inform students of career opportunities in accounting, and what steps they need to take to achieve those opportunities.

ACC 307 Intermediate Accounting I (Credits: 4)

Course examines financial accounting concepts and its application to complex problems in the measurement of balance sheet accounts, determination of net income and preparation of financial statements. Course emphasizes measurement and reporting of assets.

Prerequisite: ACC 205

ACC 308 Intermediate Accounting II (Credits: 4)

Course examines financial accounting concepts and their application to complex measurement problems and the preparation of financial statements. A grade of C or better is required in ACC 307.

Prerequisite: ACC 307 with minimum grade of C

ACC 309 Advanced Accounting (Credits: 4)

To study the accounting principles and techniques used to consolidate parent and subsidiary companies at the date of combination and in subsequent periods. A grade of C or better is required in ACC 308.

Prerequisite: ACC 308 with minimum grade of C

ACC 323 Management Accounting (Credits: 4)

Application of managerial accounting concepts and techniques to complex problems in manufacturing accounting and service firms.

Prerequisite: ACC 205

ACC 326 Accounting Systems Design and Implementation (Credits: 4)

Design and accounting database, modeling accounting transactions for database environment, use of CASE tools for database design, discussion of accounting ASP and use of web-based accounting packages.

Prerequisite: ACC 205 and MIS 300

ACC 343 Federal Income Tax I (Credits: 4)

Considers the methodology of the federal income tax as it applies to individuals. Analysis of the determinants of taxable income and the tax liability including property transfers, recapture, passive activities and income characterization.

Prerequisite: ACC 205

ACC 423 Auditing (Credits: 4)

This course provides an overview of financial, operational and compliance audits. Key auditing concepts are introduced: materiality, risk assessment, audit objectives, evidence, internal control considerations, and computer assisted audit techniques.

Prerequisite: ACC 326 and ACC 308 with minimum grade of C

ACC 424 Management Accounting Advanced (Credits: 4)

Identification, description, and analysis of behavioral science and quantitative methods employed for management accounting. Writing intensive.

Prerequisite: ACC 308 with minimum grade of C and ACC 323 and ACC 343

ACC 444 Federal Income Tax II (Credits: 4)

An introduction to the federal income taxation of business entities and owners. Considers state and local taxes and their impact on tax strategies. Introduction to the legal and ethical responsibilities of the tax practitioner.

Prerequisite: ACC 343

ACC 454 International Accounting (Credits: 4)

Examines comparative country practices and the international aspects of various accounting topics—financial and managerial accounting, social accounting, inflation accounting, auditing and taxation.

Prerequisite: ACC 205

ACC 477 Special Topics in Accounting (Credits: 1 to 4)

Topics and prerequisites vary.

ACC 478 Honors: Independent Study in Accounting (Credits: 2 to 8)

Research in accounting for fulfillment of the Honors Program project requirement.

ACC 481 Internship in Accounting (Credits: 4)

One quarter, faculty-supervised internship in the areas of public, industrial, or governmental accounting. At the conclusion of the internship the student is required to submit a report based on a topic agreed upon between the student and the sponsoring faculty.

Art Education/AED**AED 431 Art and the Child (Credits: 4)**

Understanding child growth and development through creative expression with emphasis on functions and procedures for art in the classroom. Includes curriculum implementation strategies. Experiences in art media appropriate to the elementary school and in-field observations of art in the schools.

Aerospace Science/AES**AES 121 The Air Force Today I (Credits: 1)**

An introduction to USAF ROTC. Topics include: mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force officer opportunities, group leadership problems, and communication skills.

AES 122 The Air Force Today II (Credits: 1)

An introduction to the USAF ROTC. Topics include: mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force officer opportunities, group leadership problems, and communication skills.

AES 123 The Air Force Today III (Credits: 1)

An introduction to USAF ROTC. Topics include: mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force officer opportunities, group leadership problems, and communication skills.

AES 221 The Air Force Way I (Credits: 1)

A survey course facilitating the transition from Air Force ROTC cadet to ROTC candidate. Featured topics include: Air Force heritage, leaders, Quality Air Force, ethics and values, leadership, group leadership problems, and application of communication skills.

AES 222 The Air Force Way II (Credits: 1)

A survey course facilitating the transition from Air Force ROTC cadet to ROTC candidate. Featured topics include: Air Force heritage, leaders, Quality Air Force, ethics and values, leadership, group leadership problems, and application of communication skills.

AES 223 The Air Force Way III (Credits: 1)

A survey course facilitating the transition from the USAF ROTC cadet to ROTC candidate. Featured topics include: Air Force heritage, leaders, Quality Air Force, ethics and values, leadership, group leadership problems, and application of communication skills.

AES 331 Air Force Leadership and Management I (Credits: 3)

Study of leadership and quality management fundamentals, professional knowledge, the USAF doctrine, leadership ethics, and communication skills. Case studies are used to examine the USAF leadership and management situations.

AES 332 Air Force Leadership and Management II (Credits: 3)

Study of leadership and quality management fundamentals, professional knowledge, the USAF doctrine, leadership ethics, and communication skills. Case studies are used to examine the USAF leadership and management situations. Prerequisite: AES 331

AES 333 Air Force Leadership and Management III (Credits: 3)

Study of leadership and quality management fundamentals, professional knowledge, the USAF doctrine, leadership ethics, and communication skills. Case studies are used to examine the USAF leadership and management situations. Prerequisite: AES 332

AES 431 Preparation for Active Duty I (Credits: 3)

Examines national security process, regional studies, advanced leadership ethics, and the USAF doctrine. Topics include the military as a profession, officership, military justice, civilian control of the military, current issues, and refining communication skills.

AES 432 Preparation for Active Duty II (Credits: 3)

Examines national security process, regional studies, advanced leadership ethics, and the USAF doctrine. Topics include the military as a profession, officership, military justice, civilian control of the military, current issues, and refining communication skills. Prerequisite: AES 431

AES 433 Preparation for Active Duty III (Credits: 3)

Examines national security process, regional studies, advanced leadership ethics, and the USAF doctrine. Topics include the military as a profession, officership, military justice, civilian control of the military, current issues, and refining communication skills. Prerequisite: AES 432

African and African American Studies/AFS

AFS 200 What is the African and African American Experience? (Credits: 4)

A historical and methodological analysis of both African histories and cultures and the history of the diaspora struggles of persons of African descent to create a life and distinct culture among world civilizations.

AFS 300 African American Perspectives and Models of Success (Credits: 4)

A critical study of real-life problems impacting African and African American life: economics, education, crime, gender issues, urban problems, globalism, etc. This course utilizes real-life models of success as examples of how to effectively overcome these problems.

AFS 400 Service Experience (Credits: 4)

Field placement of students in community organizations, social service agencies, and governmental entities where they will engage in work that relates to and enhances their understanding of the African American experience. Prerequisite: AFS 200 and AFS 300

AFS 401 Senior Research Project (Credits: 2 to 4)

Divided over two quarters, this course allows students to bring their study in the major to completion through major research project that focuses on one specific aspect of African or African American life.

Prerequisite: AFS 200 and AFS 300 and AFS 400

AFS 402 Ideas of Race, 1619-1865 (Credits: 4)

This course studies the religious ideas that defined and sustained antiblack practices from 1619 to 1865.

AFS 403 Ideas of Race, 1950-Present (Credits: 4)

This course studies the religious ideas that defined and sustained antiblack practices from 1950 to the present.

AFS 499 Special Topics in African and African American Studies (Credits: 1 to 4)

Selected topics relevant to historical and current issues in African and African American studies. Course may be repeated for up to four credit hours.

Anatomy/ANT

ANT 201 Basic Human Anatomy I (Credits: 4)

Osteology; histology of basic tissues; and topographical, histological, and developmental anatomy of nervous and endocrine systems. Laboratory exercises use human materials. 2.5 hours lecture, three hours lab.

ANT 202 Basic Human Anatomy II (Credits: 4)

Basic topographical, histological, and developmental anatomy of the muscular, cardiovascular, digestive, respiratory, urinary, and reproductive systems. Laboratory exercises use human materials. 2.5 hours lecture, three hours lab. Prerequisite: ANT 201

ANT 434 Biological Safety (Credits: 2)

The basic principles and practices of biosafety are examined. This course teaches the identification, handling, and containment of potentially hazardous biological materials, including microorganisms and recombinant DNA.

ANT 499 Selected Topics in Anatomy (Credits: 1 to 5)

May be taken for letter grade or pass/unsatisfactory.

Arabic/ARA

ARA 111 Essentials of Arabic (Credits: 4)

Introduction to Arabic with an emphasis on speaking the language.

ARA 112 Essentials of Arabic (Credits: 4)

Introduction to Arabic with an emphasis on speaking the language.

Art and Art History/ART

ART 200 Sophomore Workshop (Credits: 1)

Introduction to slide taking, matting and framing and professional opportunities for art majors. This course is a prerequisite for all upper level studio art courses. Graded pass/unsatisfactory.

ART 206 Drawing I (Credits: 4)

Introduction to materials, techniques, and concepts of drawing.

ART 207 Photography I (Credits: 4)

Exploration of basic processes and concepts in still photography. Work involves learning basic skills and techniques. Assignments designed to develop an understanding of light as an expressive element.

ART 208 Sculpture I (Credits: 4)

Introduction to basic processes, materials, and concepts of sculpture.

ART 209 Introduction to Color (Credits: 4)

Introduction to the study of the elements and interaction of color.

ART 211 Art History I: Before 1150 AD (Credits: 4)

Painting and sculpture before A.D. 1150. Introduces the basic concepts of visual and stylistic analysis and a historical survey of painting and sculpture in the Western world from prehistoric to medieval times.

ART 212 Art History II: 1150 to 1850 (Credits: 4)

Painting and sculpture from 1150 to 1850. Historical survey of painting and sculpture in the Western world from late medieval times to the dawn of the modern era.

ART 213 Art History III: 1850 to Present (Credits: 4)

Painting and sculpture since 1850. Historical survey of modern painting and sculpture in the Western world.
Prerequisite: ART 212

ART 214 Visual Art in Western Culture (Credits: 4)

Introduction to the visual arts focusing on selected major works of art throughout history. Discusses comparisons across time, basic art media, and the formal characteristics of art.

ART 215 Foundations of Art Education (Credits: 4)

Introductory course in art education involving approaches for aesthetic awareness, inquiries into theories of art, art appreciation and criticism, current issues, as well as child development through art, and art education methodologies. (Previously listed as AED 214.)

ART 228 Drawing II (Credits: 4)

Introduces concepts and techniques of drawing. May include studies from the human figure and other natural forms. Topics vary.
Prerequisite: ART 206

ART 258 Photography II (Credits: 4)

Development of personal concepts and aesthetic expression in photography. Emphasis on individualized approach to photographic problems that arise from students' work.

ART 300 Studio Workshop (Credits: 1 to 4)

Studio experience directly involving students with a professional artist executing a special project. Covers a range of information from preliminary planning to final discussion on the project. Topics vary.

ART 301 Independent Study in Art (Credits: 1 to 4)

Special studies and intensive individual work with faculty supervision in art.

ART 303 Independent Study in Art (Credits: 1 to 4)

Special studies and intensive individual work with faculty supervision in art.

ART 309 Studies in Art Theory and Philosophy (Credits: 4)

Courses offered under this number provide both historical surveys and intensive studies in art theory and philosophy.
Prerequisite: ART 213

ART 328 Intermediate Drawing (Credits: 4)

Development of personal concepts and aesthetic expression in drawing. Emphasis on individualized approach to drawing problems that arise from the work of students. Topics vary
Prerequisite: ART 228

ART 337 Beginning Expanded Media (Credits: 4)

Study of visual and aesthetic techniques and concepts emphasizing the development of individual artistic expression in various media.
Prerequisite: ART 228 and ART 258 and ART 378

ART 347 Beginning Painting (Credits: 4)

Working from still, figure, and landscape emphasizing the use of color and drawing in visual organization.
Prerequisite: ART 206 and ART 209 and ART 228

ART 348 Intermediate Painting (Credits: 4)

Emphasis on principles of pictorial organization. Attention to the relationship of subject matter and abstraction as related to contemporary and traditional approaches.
Prerequisite: ART 347

ART 349 Intermediate Painting (Credits: 4)

Emphasis on principles of pictorial organization. Attention to the relationship of subject matter and abstraction as related to contemporary and traditional approaches.
Prerequisite: ART 348

ART 358 Intermediate Black and White Photography (Credits: 4)

Development of personal concepts and aesthetic expression in photography. Emphasis on individualized approach to photographic problems that arise from the work of students. Topics vary.
Prerequisite: ART 258

ART 359 Color Photography (Credits: 4)

Development of personal concepts and aesthetic expression in photography. Emphasis on individualized approach to photographic problems that arise from the work of students. Topics vary.
Prerequisite: ART 258

ART 366 Beginning Printmaking: Relief (Credits: 4)

Exploration of printmaking, stressing relief methods using wood and linoleum. Exploration of aesthetic possibilities of the media. Topics vary.
Prerequisite: ART 206 and ART 228

ART 367 Beginning Printmaking: Intaglio (Credits: 4)

Exploration of printmaking stressing intaglio methods: etching, engraving, drypoint, aquatint, and liftgrounds. Use of black-and-white techniques and introduction to color printing. Topics vary.
Prerequisite: ART 206 and ART 228

ART 368 Beginning Printmaking: Lithography (Credits: 4)

Introduction to basic lithographic techniques using stone and/or metal plate. Emphasis on black-and-white printing and aesthetic possibilities of the media. Topics vary.
Prerequisite: ART 206 and ART 228

ART 369 Beginning Printmaking: Screenprinting (Credits: 4)

Introduction to silkscreening techniques such as stencil cut, photo stencil, and crayon and touche resists. Exploration of aesthetic possibilities of the media. Topics vary.

Prerequisite: ART 206 and ART 207 and ART 209

ART 375 Intermediate Sculpture—Armatures, Moulds, Casting (Credits: 4)

Development of personal concepts and aesthetic expression in sculpture. Emphasis on individualized approach to sculptural problems using armature structure, mould making, and casting. May be taken for letter grade or pass/unsatisfactory.

Prerequisite: ART 208

ART 376 Intermediate Sculpture-Clay Forming and Firing (Credits: 4)

Development of personal concepts and aesthetic expression in sculpture. Emphasis on individualized approach to sculptural problems using clay forming and firing. May be taken for letter grade or pass/unsatisfactory.

Prerequisite: ART 208

ART 377 Intermediate Sculpture—Metal Fabricating and Stone Carving (Credits: 4)

Development of personal concepts and aesthetic expression in sculpture. Emphasis on individualized approach to sculptural problems using metal fabricating and stone carving. May be taken for letter grade or pass/unsatisfactory.

Prerequisite: ART 208

ART 378 Intermediate Sculpture—Wood Carving and Fabricating (Credits: 4)

Development of personal concepts and aesthetic expression in sculpture. Emphasis on individualized approach to sculptural problems using wood carving and wood fabricating. May be taken for letter grade or pass/unsatisfactory.

Prerequisite: ART 208

ART 379 Intermediate Sculpture-Figure Modeling (Credits: 4)

Introduction to techniques and concepts involved in sculpting from life. Concentration on the development of greater understanding of the human figure and an increased sensitivity to three-dimensional form. Course may be repeated for credit. May be taken for letter grade or pass/unsatisfactory.

Prerequisite: ART 208

ART 397 Introduction to Museum Studies (Credits: 4)

Examination of the history, purposes, and literature of museums and galleries. Various aspects of gallery management such as planning, organizing, and installing exhibitions.

Prerequisite: ART 211 and ART 212 and ART 213

ART 400 Senior Seminar (Credits: 2)

Group discussions of contemporary writings in art and critiques of student work in a peer setting with faculty and visiting artists participating on an informal basis.

ART 401 Independent Study in Art History (Credits: 1 to 4)

Intensive individual work with faculty supervision in art history.

ART 402 Museum or Gallery Internship (Credits: 1 to 4)

Supervised individual projects in museum or gallery setting. Department permission required.

Prerequisite: ART 211 and ART 212 and ART 213

ART 404 Studies in Art History (Credits: 1 to 4)

Provides opportunities to explore problems and approaches to art and art history and includes cross-period and interdisciplinary studies.

Prerequisite: ART 213

ART 405 Studies in Art (Credits: 1 to 4)

Provides opportunities to explore problems and approaches to art and includes cross-media and interdisciplinary studies.

ART 409 Studies in Art Theory and Criticism (Credits: 4)

Historical surveys and intensive studies of art theory and criticism.

Prerequisite: ART 213

ART 410 Studies in American Art (Credits: 4)

General surveys and intensive studies of periods, major movements, and artists of the time.

Prerequisite: ART 213

ART 411 Studies in Ancient and Classical Art (Credits: 4)

(Also listed as CLS 340.) General surveys and intensive studies of the period, major movements, and artists of the time.

Prerequisite: ART 211

ART 412 Studies in Medieval Art (Credits: 4)

General surveys and intensive studies of the period, major movements, and artists of the time.

Prerequisite: ART 211

ART 413 Studies in Renaissance Art (Credits: 4)

General surveys and intensive studies of the period, major movements, and artists of the time.

Prerequisite: ART 212

ART 414 Studies in Baroque Art (Credits: 4)

General surveys and intensive studies of the period, major movements, and artists of the time.

Prerequisite: ART 212

ART 415 Studies in Nineteenth Century Art (Credits: 4)

General surveys and intensive studies of the period, major movements, and artists of the time.

Prerequisite: ART 213

ART 416 Studies in 20th Century Art (Credits: 4)

General surveys and intensive studies of the period, major movements, and artists of the time.
Prerequisite: ART 213

ART 417 Studies in Non Western Art (Credits: 4)

General surveys and intensive studies of periods, major movements, and artists in non-Western art.
Prerequisite: ART 211

ART 428 Advanced Drawing (Credits: 4)

Exploration of the structure and interrelationships of visual form in drawing, painting, and sculpture. Principal historical modes of drawing examined. Topics vary.
Prerequisite: ART 328

ART 437 Advanced Expanded Media (Credits: 4)

Development of personal concepts and aesthetic expression in media. Emphasis on individualized approach to media problems.
Prerequisite: ART 337

ART 448 Advanced Painting (Credits: 4)

Continued emphasis on pictorial organization with increased attention to the personal imagery of students.
Prerequisite: ART 349

ART 458 Advanced Black and White Photography (Credits: 4)

Development of personal concepts and aesthetic expression in photography. Emphasis on individualized approach to problems that arise from the work of students. Topics vary.
Prerequisite: ART 358

ART 466 Advanced Printmaking: Relief (Credits: 4)

Development of personalized concepts and individual aesthetic expression in printmaking. Topics vary.
Prerequisite: ART 366

ART 467 Advanced Printmaking: Intaglio (Credits: 4)

Development of personalized concepts and individual aesthetic expression in printmaking. Topics vary.
Prerequisite: ART 367

ART 468 Advanced Printmaking: Lithography (Credits: 4)

Development of personalized concepts and individual aesthetic expression in printmaking. Topics vary.
Prerequisite: ART 368

ART 469 Advanced Printmaking: Screenprinting (Credits: 4)

Development of personalized concepts and individual aesthetic expression in printmaking. Topics vary.
Prerequisite: ART 369

ART 478 Advanced Sculpture (Credits: 4)

Further development of personal concepts and aesthetic expression in sculpture. Emphasis on individualized approach to sculptural problems using media selected by the students. Titles vary.

ART 497 Advanced Museum Studies (Credits: 4)

Classroom and supervised practical work in art gallery and museum management.
Prerequisite: ART 297

American Sign Language/ASL

ASL 101 American Sign Language I (Credits: 4)

An introduction to basic conversational skills in American Sign Language, including exposure to Deaf culture. Outside activity required.

ASL 102 American Sign Language II (Credits: 4)

Continuation of the introduction to basic conversational skills in American Sign Language, including exposure to Deaf Culture. Outside activity required.
Prerequisite: ASL 101 or RHB 101

ASL 103 American Sign Language III (Credits: 4)

A continued expansion of the conversational ranges and knowledge of American Sign Language from ASL 101 and 102. Outside activity required.
Prerequisite: ASL 102 or RHB 102

ASL 201 American Sign Language IV (Credits: 4)

An intermediate course in American Sign Language that continues to develop grammatical and vocabulary competency in conversational ranges. Outside activity required.
Prerequisite: ASL 103 or RHB 103

ASL 202 American Sign Language V (Credits: 4)

An expansion of the conversational skills and knowledge of American Sign Language from ASL 201. Outside activity required.
Prerequisite: ASL 201 or RHB 228

ASL 203 American Sign Language VI (Credits: 4)

A continuing development of intermediate conversational skills in American Sign Language building on competencies from ASL 202. Outside activity required.
Prerequisite: ASL 202 or RHB 229

Anthropology/ATH

ATH 200 World of Primitive Contemporaries (Credits: 3)

Survey of the world's non-Western cultures. Discussions include the various ways contemporary peoples live and the relationship between primitive and contemporary cultures.

ATH 241 Introduction to Biological Anthropology (Credits: 4)

An overview of human biology and behavior, including human evolution, primate behavior, and human physical variation.

222 Course Descriptions

ATH 242 Introduction to Archaeology (Credits: 4)

Introduction to the nature of archaeological data, techniques of archaeological dating, and methods of data collection, analysis, and interpretation.

ATH 250 Introduction to Cultural and Social Anthropology (Credits: 3)

Surveys various fields or sub-disciplines of anthropology to enable anthropology majors to complete upper-division courses effectively. Emphasis on identifying cultural symbols and social interaction in ethnic groups.
Prerequisite: CST 240

ATH 300 Laboratory in Archaeology (Credits: 4)

Emphasizes recognition and analysis of archaeological remains from prehistoric and historic sites. Students develop an original analysis of some body of archaeological material.
Prerequisite: ATH 242 and ATH 369

ATH 340 Applied Anthropology: An Introduction (Credits: 4)

Introduces various aspects of applied anthropology as currently used in a variety of behavioral activity fields locally, nationally, and internationally.

ATH 341 Indians of North America (Credits: 4)

Survey of selected North American Indian societies, contrasting their modern and aboriginal cultures.

ATH 342 Anthropology of Sex and Gender (Credits: 4)

Studies similarities and differences between males and females, their status, roles in selected societies, stereotypes, physical and behavioral aspects of sex and gender, and cross-cultural variations in gender roles.

ATH 346 Anthropology of Religion (Credits: 4)

(Also listed as REL 362.) Anthropological approach to meaning and function of religion in social life, and nature of thought or belief systems that give rise to different forms of religious life. Emphasis on primitive and peasant societies.

ATH 349 Anthropological Linguistics (Credits: 4)

The science of language as an anthropologist's tool for field research. How to describe language as sound, and write an unwritten language; how the anthropologist can make use of linguistic training for acquiring cultural data.

ATH 351 Human Evolution (Credits: 4)

History, description, and interpretation of the fossil record for primate evolution with emphasis on human evolution.

ATH 352 Primate Behavior (Credits: 4)

Detailed examination of the behavior of nonhuman primates, including monkeys and apes, as it relates to human evolution and behavior.

ATH 358 Human Variation and Adaptation (Credits: 4)

Examination of human biological variation focusing on interpopulation variation, environmental adaptation, and the concept of race.

ATH 365 Archaeology of North America (Credits: 4)

Detailed examination of the major prehistoric cultures of North America. Emphasis on eastern North American prehistory.

ATH 368 Archaeological Field Techniques (Credits: 4)

Classroom and field preparation for archaeological survey and excavations.
Prerequisite: ATH 242

ATH 369 Field School in Archaeology (Credits: 6 to 12)

Excavation training on prehistoric sites.

ATH 392 Readings in Anthropology (Credits: 2 to 4)

May be taken for letter grade or pass/unsatisfactory.

ATH 396 Careers for Anthropology Majors (Credits: 2)

A combination workshop and field study in which students learn how to prepare a resume, how to find out about career possibilities, and how to meet people who are active practitioners.
Prerequisite: COM 304

ATH 399 Studies in Selected Subjects (Credits: 1 to 4)

Problems, approaches, and topics in the field of anthropology. Topics vary.

ATH 400 Topics in Archaeology (Credits: 4)

Advanced study of various specialized aspects of archaeology. Classes may be lecture or seminar.

ATH 405 Ethnographic Film (Credits: 4)

Students will explore the use of film as an ethnographic tool. These films will be used to convey ethnographic or anthropological depth and understanding. Behavior and customs will be analyzed.

ATH 410 Special Topics in Cultural Anthropology (Credits: 4)

Selected topics concerning the method and theory of anthropological thought and their relationship to the allied disciplines of economics, linguistics, art, politics, and history. Emphasis on current trends influencing research in cultural anthropology. Topics vary.

ATH 415 Anthropology of Latin America (Credits: 4)

This course will provide a survey of Latin America — students will examine its history, as well as become acquainted with cultural pluralism, social organizations, economic conditions, and current issues.

ATH 446 Peoples and Cultures of South Asia (Credits: 4)

Survey and analysis of cultural diversity and unity in southern Asia, particularly India, Pakistan, Bangladesh, and Sri Lanka.

ATH 447 Peoples and Cultures of Africa (Credits: 4)

Survey of the peoples and sociocultural systems of Africa with emphasis on sub-Saharan ecological and biocultural relationships.

ATH 448 Development of Ethnological Thought (Credits: 4)

Surveys historical development of ethnological thought and emphasizes theories of social and cultural change.

ATH 450 Political Anthropology (Credits: 4)

(Also listed as PLS 450.) Study of the cultural part of primitive societies that we recognize as political organization. An attempt is made to show how in less complex (primitive) societies new local communities come into being through fission.

ATH 455 Biomedical Anthropology (Credits: 4)

An anthropological perspective of health and illness in selected societies of the world. Integrates physical, social, and cultural dimensions of disease, nutrition, fertility and population growth, health beliefs and practices, and the consequences of culture change and modernization.

ATH 458 Anthropology of Women's Health (Credits: 4)

Integrates biological and sociological dimensions of women's health throughout the world. It examines cross-cultural variation in disease and illness and the sociocultural contexts that define models of women's health.

ATH 465 Seminar in Woodland Archaeology (Credits: 4)

Intensive review of the prehistoric Woodland period (600 B.C.–A.D. 900) of eastern North America. Regional cultures such as Adena and Ohio Hopewell and topics including trade, the economy, political organization, and mortuary customs are considered.

ATH 468 Seminar in Archaeological Theory (Credits: 4)

Wide-ranging survey of traditional and contemporary archaeological theory, with study of its applications in various parts of the world. Prerequisite: ATH 242

ATH 475 Historical Archaeology (Credits: 4)

Focuses on the post-European discovery period of America. Archaeological interpretations of colonial, plantation, industrial, frontier, and urban sites and materials are explored in seminar discussions and through laboratory analyses of southwest Ohio site collections. Prerequisite: ATH 242

ATH 492 Independent Research in Anthropology (Credits: 2 to 4)

May be taken for letter grade or pass/unsatisfactory.

Athletic Training/ATR

ATR 261 Basic Principles in Athletic Training (Credits: 4)

Introductory course to the field of athletic training.

ATR 262 Athletic Emergency Care (Credits: 3)

The recognition and management of athletic emergencies will be emphasized. The relationships of other allied health care providers in similar situations will also be discussed and studied. Prerequisite: ATH 261

ATR 284 Basic Skills in Athletic Training (Credits: 1 to 15)

Supervised field work for sophomore students who are seeking certification or a concentration in a specific area. Titles vary. Contact hours vary according to subject. May be taken for letter grade or pass/unsatisfactory.

ATR 285 Rehabilitation Skills (Credits: 3)

This is the second practicum in a series of nine to meet the competencies of athletic training. The emphasis will be in the development of injury/illness rehabilitation protocols for the physically active. Prerequisite: ATR 261

ATR 286 Emergency Management Skills (Credits: 3)

This is the third practicum in a series of nine to meet the competencies of athletic training. The emphasis will be on emergency situations and appropriate protocols of care. Prerequisite: ATR 261

ATR 302 Strength and Conditioning for Athletic Training (Credits: 3)

To provide the opportunity to learn and practice various testing and techniques to improve strength, flexibility, power, agility, speed, endurance, body composition and cardiovascular fitness levels.

ATR 303 Therapeutic Exercise in Athletic Training (Credits: 3)

Methods of evaluating students and design of individual exercise programs for students with temporary or permanent physical limitations. Prerequisite: HPR 212

ATR 360 Therapeutic Modalities in Athletic Training (Credits: 3)

The study and practical application of therapeutic modalities for the treatment of athletic injuries. Modalities may include superficial heat and cold, hydrotherapy, massage, traction, intermittent compression units, ultrasound, electrostimulation, and microwave and shortwave diathermy. Prerequisite: ATR 261 and ATR 303 and ATR 361 and ATR 384 and ATR 385

ATR 361 Assessment of Athletic Injuries (Credits: 4)

Second course in a series of three to cover the principles of athletic training. Prerequisite: ATR 261 and ATR 303 and ATR 262 and ATR 284 and ATR 285 and ATR 286

ATR 384 Lower Body Assessment Skills
(Credits: 1 to 15)

Supervised field work for junior students seeking certification or a concentration in a specific area. Topics vary. Contact hours vary according to subject. May be taken for letter grade or pass/unsatisfactory.

ATR 385 Upper Body Assessment Skills (Credits: 3)

This is the fifth practicum in a series of nine to meet the competencies of athletic training. The emphasis will be on evaluation of injuries/conditions of the upper body.
Prerequisite: ATR 261 and HPR 250 and HPR 251

ATR 386 Therapeutic Modalities Skills (Credits: 3)

This is the sixth practicum in a series of nine to meet the competencies of athletic training. The emphasis will be on treatment protocols for injuries/conditions to the physically active.
Prerequisite: ATR 261 and ATR 303 and ATR 361 and ATR 384 and ATR 385

ATR 460 Advanced Athletic Training (Credits: 4)

Advanced problems found in the identification of injuries related to athletic participation.
Prerequisite: ATR 261 and ATR 262 and ATR 303 and ATR 360 and ATR 361 and ATR 461

ATR 461 Organization and Administration of Athletic Training (Credits: 4)

Combines the knowledge of organization and administration and how it applies to the profession of athletic training.
Prerequisite: ATR 261

ATR 482 Pharmacology for Athletic Training
(Credits: 3)

This course is designed to provide the Athletic Training Student pharmacological information that pertains to the sports-medicine care of the physically active.
Prerequisite: CHM 101 and CHM 102 and HPR 355 and BIO 111

ATR 484 Clinical and Surgical Rotation
(Credits: 1 to 15)

Supervised field work for senior students seeking certification or a concentration in a specific area. Titles vary. Contact hours vary according to subject. May be taken for letter grade or pass/unsatisfactory.

ATR 485 Advanced Rehabilitation Skills (Credits: 3)

This is the seventh practicum in a series of nine to meet the competencies of athletic training. The emphasis will be on advanced rehabilitation programs. Limited to students in the ATR program.
Prerequisite: ATR 261 and ATR 285 and ATR 303 and ATR 361 and ATR 384 and ATR 385

ATR 486 Medical Condition in Athletic Training
(Credits: 3)

This is the ninth practicum in a series of nine to meet the competencies of athletic training. The emphasis will be on case studies for injuries/conditions to the physically active. Limited to students in the ATR program.

Prerequisite: ATR 261 and ATR 303 and ATR 361 and ATR 360 and ATR 262 and ATR 461

ATR 487 Athletic Training Internship (Credits: 12)

A culminating internship for student athletic trainers in one of the following settings: high school, college, sports medicine clinic, industrial, Olympic, or professional sports. The student can schedule this internship any quarter with the director of Athletic Training.

Prerequisite: ATR 261 and ATR 262 and ATR 284 and ATR 285 and ATR 286 and ATR 303 and ATR 360 and ATR 361 and ATR 384 and ATR 385 and ATR 386 and ATR 460 and ATR 461 and ATR 484 and ATR 485 and ATR 486

Aviation/AVI

AVI 201 Private Pilot Ground Education (Credits: 4)

Forty hours of ground instruction covering radio navigation, meteorology, FAA regulations, communications, aircraft construction, and performance data to meet requirements of private pilot's written examination.

Biological Sciences/BIO

BIO 101 Medical and Scientific Technology (Credits: 4)

Spelling, recognition and understanding contemporary specialized medical and scientific vocabulary that is based on the Latin and Greek languages. Emphasis on terminology of the medical sciences.

BIO 105 Introductory Biology: Food (Credits: 4)

Biological principles applied to the nature of food, its production, and use in the human body. Topics include molecular biology, photosynthesis, respiration, digestion, nutrition, agricultural ecosystems, and issues of feeding a rapidly growing human population. Three hours lecture, two hours lab.

BIO 106 Introductory Biology: Biodiversity (Credits: 4)

Biological principles and processes applied to the origin, interaction, and extinction of species. Laboratory and lab topics include paleobiology, speciation, macroevolution, adaptive radiation, symbiosis, biogeography, and the scientific management of modern biological resources. Three hours lecture, two hours lab.

BIO 107 Introductory Biology: Disease (Credits: 4)

Biological principles applied to the study of disease: causes, controls, and natural defense against infection. Topics include microscopy, pathology, antibiotics, immunology, and epidemiology with historical perspectives and an emphasis on investigative techniques. Three hours lecture, two hours lab.

BIO 111 Principles of Biology: Human Biology (Credits: 4)

Introduction to the basic concepts of biology. Emphasis on the anatomical and physiological organization of the human body, including applications to wellness, disease, and aging. Three hours lecture, two hours lab.

BIO 112 Principles of Biology: Cell Biology and Genetics (Credits: 4)

Introduction to basic concepts of biology. Topics include genetics and the molecular and cellular basis for the unity of life. Three hours lecture, two hours lab.

BIO 115 Principles of Biology - Diversity and Ecology (Credits: 4)

Introduction to basic concepts of biology. Topics include evolution, ecology, and the diversity of life. Three hours lecture, two hours lab.
Prerequisite: BIO 112

BIO 194 Careers in Environmental Health, Exercise Biology, Clinical Laboratory Sciences, Biological Sciences (Credits: 1)

Provide students with an overview of the programs and career options in Biology, Clinical Laboratory Science, Exercise Biology and Environmental Health Sciences.

BIO 199 Introduction to Biological Investigation (Credits: 1)

For individually motivated students at the introductory level who wish to pursue some particular project under faculty supervision. Graded pass/unsatisfactory.

BIO 201 Topics in Biology (Credits: 1 to 5)

Selected biological topics of current interest.

BIO 210 Molecular Biology (Credits: 4)

Emphasizes understanding of the chemical and physical aspects of molecular interactions and the flow of genetic information from DNA to protein.
Prerequisite: BIO 111 and BIO 112 and BIO 115 and CHM 121 and CHM 122 and CHM 123

BIO 211 Molecular Genetics (Credits: 4)

Emphasizes understanding of the control of gene expression in both prokaryotes and eukaryotes. Includes study of chromosome structure, replication, recombination, and repair.
Prerequisite: BIO 111 and BIO 112 and BIO 115 and BIO 210 and CHM 121 and CHM 122 and CHM 123

BIO 212 Cell Biology (Credits: 4)

Emphasizes eukaryotic cell structure and function, including energetics and involvement of various organelles.
Prerequisite: BIO 111 and BIO 112 and BIO 115 and BIO 211 and CHM 121 and CHM 122 and CHM 123

BIO 213 Molecular and Cellular Laboratory Techniques (Credits: 3)

Basic techniques in molecular and cellular biology, emphasizing acquisition and interpretation of data.
Prerequisite: BIO 111 and BIO 112 and BIO 115 and CHM 121 and CHM 122 and CHM 123 and CHM 211 and CHM 215

BIO 230 Organismal Physiology (Credits: 4)

Fundamentals of physiological processes in multicellular plants and animals, including bioenergetics, fluid dynamics, biomechanics and movement, signal processing, and thermoregulation.
Prerequisite: BIO 111 and BIO 112 and BIO 115

BIO 231 Introduction to Ecology (Credits: 4)

Introduction to ecology, the scientific study of the relationships between organisms and their natural environments. Three hours lecture, two hours lab including several outdoor lab experiences.
Prerequisite: BIO 111 and BIO 112 and BIO 115

BIO 271 Introduction to Bioinformatics (Credits: 4)

Tools-oriented approach in bioinformatics emphasizing DNA data structure, string representation in PERL, data searches, pairwise alignments, substitution patterns, protein structure prediction and modeling, proteomics, and use of web-based bioinformatic tools.
Prerequisite: BIO 112 and CS 240

BIO 278 Anatomy and Physiology I (Credits: 4.5)

Lecture topics in human anatomy and physiology, including tissues; skeletal, muscular, nervous, and endocrine systems. Laboratory features cat dissection and physiological techniques complementary to the lecture topics.
Prerequisite: BIO 112

BIO 279 Anatomy and Physiology II (Credits: 4.5)

Lecture topics in human anatomy and physiology including the cardiovascular, respiratory, digestive, excretory, and reproductive systems. Laboratory features cat dissection and physiological techniques complementary to the lecture topics.
Prerequisite: BIO 278

BIO 302 Genetics (Credits: 4)

The nature and function of genetic material with emphasis on transmission and population genetics. Exceptions to and extensions of Mendelian analysis, gene mapping, quantitative genetics, and the change of gene frequencies with time. Three hours lecture, one hour recitation.
Prerequisite: BIO 210 and MTH 130

BIO 305 Animal Physiology (Credits: 3)

Basic adaptive mechanisms and their coordination in the activities of the metazoa.

Prerequisite: BIO 112 and BIO 115

BIO 310 Clinical Microbiology (Credits: 3)

The study of biological processes of microorganisms, with emphasis on microorganisms that cause human disease (pathogens).

Prerequisite: BIO 112 and CHM 213 and CHM 217

BIO 311 Clinical Microbiology Laboratory (Credits: 2)

The study of biological processes of microorganisms, with emphasis on microorganisms that cause human disease (pathogens).

Corequisite: BIO 310

Prerequisite: BIO 112 and CHM 213 and CHM 217

BIO 312 Microbiology (Credits: 5)

Study of morphology, cultivation, and biochemical activities of microorganisms. Survey of viruses, bacteria, blue-green algae, fungi and their diversity in natural environments.

Prerequisite: CHM 213 and BIO 210 and BIO 211 or BIO 278 and BIO 279 or BIO 230

BIO 313 Biology of Lower Plants (Credits: 5)

Study of morphology; taxonomy; and ecology of algae, fungi and bryophytes. Emphasis on growth and development patterns, modes of reproduction, importance to humans and ecosystems, diversity, distribution, and phylogenetic relationships.

Prerequisite: BIO 231

BIO 314 Biology of Vascular Plants (Credits: 5)

Study of form development, reproduction and life histories of vascular plants. Survey of representative plant families emphasizing phylogenetic relationships, distribution, and vegetational types in natural habitats.

Prerequisite: BIO 231

BIO 315 Biology of Invertebrates (Credits: 5)

Morphology, development, physiology and evolutionary relationships of major invertebrate groups.

Prerequisite: BIO 230

BIO 316 Biology of Vertebrates (Credits: 5)

Introduction to the anatomy and evolutionary history of vertebrate animals.

Prerequisite: BIO 230

BIO 345 Concepts in Biology (Credits: 4.5)

An accelerated treatment of fundamental concepts and applications of biology for Elementary Education majors. Topics and activities organized specifically to prepare students for science teaching at levels K–8. For elementary education majors only. Integrated lecture/lab.

Prerequisite: PHY 245 or PHY 246 and CHM 246

BIO 346 Concepts in Biology II (Credits: 4.5)

Concepts and applications of biology formatted to model implications of state and national pedagogical standards, aimed specifically at preparing students for biology teaching in Grades 4-9. For Middle Childhood Education majors only. Integrated lecture/lab.

Prerequisite: BIO 345

BIO 380 Conservation Biology (Credits: 3)

Examination of the scientific theory and applied research focused on the sustained preservation of global biological diversity.

BIO 399 Undergraduate Teaching Assistant (Credits: 1 to 3)

Supervised experience in preparing materials and apparatus for laboratory sessions in the biological sciences. Students will work with course staff on a regularly scheduled basis to develop the practices and skills associated with laboratory teaching responsibility and assist course staff in teaching the laboratory. May be repeated for up to three credits. Graded pass/unsatisfactory.

BIO 401 Topics in Modern Biology (Credits: 1 to 5)

Advanced topics in modern biology of current interest. Topics vary.

BIO 402 Current Literature in Biology (Credits: 3)

Writing intensive course using current research articles to develop critical thinking skills, designed for advanced undergraduates, or beginning graduate students. Four different sections emphasize broad areas of biology.

BIO 403 Developmental Biology (Credits: 5)

Describes underlying processes that initiate, in plants and animals, the development of tissues and the whole organism. Laboratory exercises highlight developmental processes. Three hours lecture, four hours lab.

Prerequisite: BIO 115 and BIO 212

BIO 404 Basic Electron Microscopy (Credits: 6)

Basic theory and practical experience in transmission electron microscopic technology. Animal, plant, and particulate specimens are processed in the laboratory.

Prerequisite: BIO 443 or BIO 212

BIO 406 Evolutionary Biology (Credits: 3)

Historical development and current understanding of the principles of evolution.

Prerequisite: BIO 111 and BIO 112 and BIO 115 and BIO 212

BIO 407 Wetlands Biology (Credits: 5)

Ecological investigation of wetlands of United States, with emphasis on Midwest. Primarily field oriented and some lecture. Covers soils, vegetation, hydrology, conservation, and restoration.

Prerequisite: CHM 121 and CHM 211 and CHM 215 and BIO 231 or BIO 314 or EES 450 or BIO 411

BIO 408 Writing in the Biological Sciences (Credits: 3)

Surveys grammatical and stylistic aspects of scientific writing and teaches students how to organize, write, and submit a manuscript for publication in a biological journal. Writing grants will also be discussed.

Prerequisite: BIO 112 and BIO 115

BIO 411 The Aquatic Environment (Credits: 5)

Introduction to limnology. Field and laboratory course concerned with physical, chemical, and biological factors that characterize natural waters.

BIO 412 Aquatic Communities (Credits: 6)

A survey of animal and plant species occurring in local aquatic habitats. Lectures cover structural and functional aspects of major fresh-water communities.

BIO 413 Biological Problems of Water Pollution (Credits: 5)

Introduction to biological aspects of water pollution. Lectures, discussions, laboratories, and field trips on various types of pollutants and their impact on aquatic life.

BIO 415 Introduction to Toxicology (Credits: 4)

Covers toxicological problems encountered in the field of environmental health. Emphasis on monitoring, control, and regulation of toxic substances in air and water and in industrial environments. Completion of a course in physiology and in organic chemistry required.

BIO 420 Designing Biological Experiments (Credits: 3)

Principles of effective sampling design for biological experiments. Reconciling the peculiarities of biological data with the assumptions of statistical methods. Lectures and problem sets.

BIO 421 Human Genetics for Health Professionals (Credits: 3)

Describes mechanism of inheritance and genetic diseases so that health professionals can recognize possible genetic abnormalities and make appropriate referrals, participate in genetic counseling, and consider ethical and legal implications of the "new genetics." For non-majors only.

Prerequisite: BIO 112

BIO 425 Microbial Ecology (Credits: 5)

Microbes in soil, water, and air. Experiments on mineral cycles, physical and biological limiting factors, and environments. Includes field studies.

BIO 426 Human Genetics (Credits: 4)

Nature of human genetic traits, methods of analysis and inheritance.

Prerequisite: BIO 302

BIO 434 Biological Safety (Credits: 2)

The basic principles and practices of biosafety are examined. This course teaches the identification, handling, and containment of potentially hazardous biological materials, including microorganisms and recombinant DNA.

BIO 437 Recombinant DNA Methods (Credits: 6)

(Also listed as BMS 790, BIO 737, M&I 437, M&I 737.) Microbial and molecular techniques for producing, cloning, and characterizing recombinant DNA molecules. Laboratory exercises in gene manipulation give an understanding of the principles of genetic engineering.

Prerequisite: BIO 210 and BIO 211 and BIO 213

BIO 441 Endocrinology (Credits: 3)

A survey course that focuses on major topics in endocrinology. Topics range from the overall workings of the hypothalamo-hypophyseal axis to comparative aspects of reproductive endocrinology.

Prerequisite: BIO 212 and BIO 315 or BIO 316 and CHM 213 and PHY 113

BIO 442 Advanced Molecular Biology (Credits: 3)

Topics emphasizing gene organization and genome organization will center on the molecular anatomy, expression, and regulation of eukaryotic genes. Includes a thorough discussion of recombinant DNA technology.

Prerequisite: BIO 210 and BIO 211 and BIO 212 and CHM 211 and CHM 212 and CHM 213

BIO 443 Vertebrate Histology (Credits: 5)

Study of structure/function relationships in vertebrate tissues, organs and organ systems.

Prerequisite: CHM 211

BIO 444 Plant Physiology (Credits: 5)

Special aspects of plant physiology that set plants apart from other organisms. Laboratory introduces independent research concerning plant nutrition and bud development.

Prerequisite: BIO 230 and BIO 314 or BIO 314 and CHM 123 and CHM 213

BIO 445 Plants and the Environment (Credits: 3)

The course covers the effects of abiotic and biotic environmental stressors on plants in natural and agro-ecosystems and the mechanisms that plants use to combat damage by these stresses.

Prerequisite: BIO 230 and BIO 239

BIO 446 Advanced Cell Biology (Credits: 3)

Cell structure/function including the organization of the cell nucleus, DNA replication, multiple steps of gene expression, membrane composition and the importance of the cytoskeleton for cell motility, cell division and cell adhesion.

Prerequisite: BIO 212

BIO 452 Exercise Pharmacology (Credits: 3)

Exercise pharmacology concerns the effect of exercise on the therapeutic actions of commonly used prescriptions and over-the-counter drugs. The effect of drugs on athletic performance is also emphasized.

Prerequisite: BIO 212 and P&B 302

BIO 455 Plant Systematics (Credits: 3)

A survey of topics and techniques encountered in studies of the relationships and evolution of the higher plants, emphasizing the flowering plants.

Prerequisite: BIO 314

BIO 456 Biology of Ecosystems (Credits: 3)

Students will study the development of the ecosystem concept and the traditional ways in which organisms can alter ecosystem dynamics through physical or chemical interactions with their environments.

Prerequisite: BIO 321

BIO 460 Population Genetics (Credits: 3)

Examination of the causes of genetic differences within and among species and how molecular biology techniques can be used to identify these differences. Emphasizes human genetics, anthropology, ecology, and conservation implications.

Prerequisite: BIO 210 and BIO 211 and BIO 212 and BIO 302

BIO 461 Molecular Evolution (Credits: 3)

Studies the evolutionary history of organisms by interpreting their genomes as historical documents. Focuses on the origins of human traits and diseases, phylogenetic reconstruction, and systematics.

Prerequisite: BIO 210 and BIO 211 and BIO 212 and BIO 302

BIO 464 Microbiology of Food (Credits: 3)

Principles of food microbiology, preservation, and handling. Major organisms of food poisoning and means of control are considered.

BIO 470 General Entomology (Credits: 3)

Basic study of morphology, physiology, habits and classification of insects. Some discussion of pesticide toxicology and insect management included.

BIO 471 Algorithms for Bioinformatics (Credits: 4)

Theory-oriented approach to application of contemporary algorithms to bioinformatics. Graph theory, complexity theory, dynamic programming and optimization techniques are introduced for solving specific computational problems in molecular genetics.

Prerequisite: BIO 271 and CS 400 and BIO 210 and BIO 211 and CHM 213

BIO 473 Biology of Selected Marine Environments (Credits: 5)

Biological aspects of marine environments. Sampling and observation of living marine specimens during week-long trip to marine laboratory.

BIO 475 Microbiology of Food Laboratory (Credits: 2)

Methods for evaluating microbial quality of food. Includes investigation of major pathogens, and techniques and principles of processing food. Completion of a laboratory course in general microbiology required.

Prerequisite: BIO 312 or M&I 220

BIO 476 Human Parasitology (Credits: 2)

Study of aspects of parasitology including biology, epidemiology, diagnosis, and identification of parasites. Divided into three major categories: protozoology, helminthology, and arthropodology.

BIO 477 Human Parasitology Laboratory (Credits: 3)

Examination and identification of protozoan, helminthic, and arthropod parasites of humans.

BIO 484 Biogeography (Credits: 3)

(Also listed as GEO 484.) Introduction to the factors affecting the distribution of plants and animals.

Prerequisite: BIO 112 and BIO 115 and BIO 231

BIO 488 Independent Reading (Credits: 1)

Graded pass/unsatisfactory.

BIO 490 Biology Internship (Credits: 9 to 12)

Off-campus experience in cooperating scientific agency or industrial organization. Reports and specific assignments determined in consultation with faculty advisor and supervising professionals.

BIO 492 Senior Seminar (Credits: 2)

Literature survey, discussion, and oral presentations of selected topics in the biological sciences. Course requires written presentations when offered for two credits and one recitation.

Biochemistry/BMB

BMB 250 Human Nutrition (Credits: 4)

Nutrition as an integrated science emphasizing biochemical and physiological principles. Topics include nutritional energetics, specific nutrients, and nutrition and physiology. Relation of basic concepts to clinical situations and to nutritional management of specific disease conditions.

Prerequisite: BIO 105 and CHM 102

BMB 421 Biochemistry I (Credits: 4)

Chemistry of biological compounds and introduction to enzymes.

BMB 423 Biochemistry II (Credits: 4)

Intermediary metabolism of carbohydrates, proteins, nucleic acids, and lipids.

Prerequisite: BMB 421

BMB 427 Human Biochemistry (Credits: 4)

Metabolism of hormones and amino acids, integration of metabolism, and aspects of human biochemistry including some metabolic disorders and nutrition.

Prerequisite: BMB 421 and BMB 423

BMB 495 Honors Research in Biochemistry (Credits: 1 to 5)

Laboratory experience in biochemistry. May be taken for letter grade or pass/unsatisfactory.

Prerequisite: BMB 421

BMB 499 Undergraduate Research (Credits: 1 to 4)

May be taken for letter grade or pass/unsatisfactory.

Biomedical Engineering/BME

BME 155 Adaptive Computer Technology (Credits: 4)

Presented for physically impaired students for the purpose of familiarizing them with adaptive computer usage. It is structured to teach necessary skills related to each student's rehabilitative needs.

BME 195 Fundamentals of Biomedical Engineering (Credits: 2)

This is an introduction to the study of Biomedical Engineering. The broad areas of BME are presented through lecture and demonstration. Department faculty provides interesting insights in their areas of expertise.

BME 199 Special Topics in BME (Credits: 1 to 4)

Special topics in Biomedical Engineering are offered periodically on subjects that are of current interest. In some cases a student may take this as an individual study course, the subject matter will vary from year to year. Check with the department on type of courses currently being offered.

BME 300 Honors Program Seminar (Credits: 0)

An orientation course intended for juniors who have demonstrated exceptional academic ability and desire to conduct meaningful independent research or solve unique engineering design projects during their senior year. Meets 5 times a quarter.

BME 402 Biomedical Engineering Design II Laboratory (Credits: 2)

Design project teams will meet with their advisor(s) on a weekly basis to review progress, make assignments, and further incubate students with design methods.

Prerequisite: BME 440 and BME 461 and BME 491

BME 403 Biomedical Engineering Design III Laboratory (Credits: 2)

Design project teams will meet with their advisor(s) on a weekly basis to review progress, make assignments, and further incubate students with design methods.

Prerequisite: BME 492

BME 419 Biofluid Mechanics (Credits: 3)

Derivation and use of the basic conservation laws underlying the fluid mechanical behavior of the cardiopulmonary system. Includes applications to the flows of blood, pulmonary air, and extra-corporeal fluids.

Prerequisite: ME 212 and ME 315 and MTH 233

BME 420 Biomedical Heat and Mass Transfer (Credits: 3)

Introduction to transport phenomena in biomedical engineering and physiological systems. Energy and mass balances together with constitutive and empirical relationships are used in quantifying such topics as body heat loss by the various modes, diffusion mass transport, and heat/mass transport in applicable technological systems.

Prerequisite: BME 419

BME 422 Engineering Biophysics (Credits: 4)

Application of mathematical and engineering techniques toward describing biophysical systems. Topics include cellular transport, electrical properties of membranes, and biophysics of muscle contraction.

Prerequisite: EE 321

BME 428 Biomechanics and Bioenergetics (Credits: 5)

Application of solid mechanics (statics/dynamics) toward the description and analysis of physiological systems. Topics include mechanics of the musculo-skeletal system, human motion and collision, introductory material mechanics, human heat generation, transfer and measurement.

Prerequisite: ME 212 and ME 213

BME 439 Biotransport and Artificial Organs (Credits: 4)

Introduction to transport processes vital to the design of medical devices for artificial intervention into living systems. Topics include circulatory system dynamics, mathematical modeling of physiological systems, membrane transport, and biological/artificial organ design.

Prerequisite: BME 420 and ISE 301

BME 440 Biomaterials (Credits: 4)

Application of properties of materials and solid mechanics to problems and design of medical implants, external prostheses, and living tissues. Topics include mechanical properties of biologic and synthetic materials, stress-strain analysis, viscoelasticity, tissue response to implants and vice versa, and implant materials for interfacing with hard and soft tissues and blood.

Prerequisite: ME 213 and EE 321

BME 460 Biomedical Electronics (Credits: 5)

Employment of modern electronic devices and circuits as applied to instrumentation and data collection associated with biomedical applications and related fields. The course includes bio-electronic laboratory component, which emphasizes a hands-on active learning.

Prerequisite: EE 301 and EE 302

230 Course Descriptions

BME 461 Bioinstrumentation I (Credits: 4)

Principles of design and analysis of electronic instrumentation for medical applications. Topics include various electrodes/transducers for physiological measurement, imaging modalities, systems, and electrical safety.

Prerequisite: BIO 279 and EE 321 and BME 460

BME 462 Bioinstrumentation II (Credits: 4)

Continuation of principles of design and analysis of electronic instrumentation for medical applications. Topics include various electrodes/transducers for physiological measurement and electrical stimulation, biological signal acquisition and processing, various medical imaging modalities/systems, and electrical safety.

Prerequisite: BME 461 and ISE 301

BME 463 Biomedical Computers I (Credits: 2)

Digital computer applications in biomedical related fields. Use of software to solve biomedical problems and display the results.

Prerequisite: CEG 220 and EE 301

BME 464 Microprocessors for Biomedical Engineering (Credits: 4)

Principles, hardware structure, and programming techniques of microprocessors. Applications of microprocessor-based systems in hospitals, rehabilitation engineering, and medical research.

Prerequisite: BME 460 and BME 463

BME 470 Photon Radiation (Credits: 4)

Basic introduction to generation, effects, and detection of ionizing radiation and its application to medicine. Successful completion of this course entitles students to be registered users of radioactive isotopes.

Prerequisite: PHY 242 and PHY 244 and BIO 279

BME 471 Medical Imaging (Credits: 4)

Overview of the various methods used in generating images in medicine. Basic principles of the image-forming process and the physical properties of the resultant image are discussed.

Prerequisite: BME 470

BME 485 Six Sigma for Engineers (Credits: 4)

The course introduces students to the practical application of Six Sigma tools in manufacturing and service projects. The course also includes videotapes and case studies of real-world industrial operations.

Prerequisite: ISE 301

BME 491 Biomedical Engineering Design I (Credits: 3)

Individualized design projects allowing students to make use of design and analytical skills.

Prerequisite: BME 420 and BME 464

BME 492 BME Design II (Credits: 1)

Individualized design projects allowing students to use design and analytical skills.

BME 493 BME Design III (Credits: 1)

Individualized design projects allowing students to use design and analytical skills.

Prerequisite: BME 492

BME 499 Special Problems in Biomedical Engineering (Credits: 1 to 5)

Special problems in advanced engineering topics. Topics vary.

Business/BUS

BUS 100 Horizons in Business (Credits: 4)

Covers the range of activities, challenges, opportunities, and career paths in the world of U.S. and global business. Includes an overview and introduction to such diverse areas as the economic setting, international business, the structure of business, management of American business, human resources, marketing, information systems, accounting, finance, and ethics in business.

Computer Engineering/CEG

CEG 210 PC Networking I (Credits: 4)

Introduction to PC networking hardware, concepts, and technologies. Focus is on LAN administration, and hardware and software configuration using in class hands-on exercises. Internet resources, from the PC network perspective, are utilized. CS and CEG majors may not take this course for credit.

Prerequisite: CS 205

CEG 211 PC Networking II (Credits: 4)

Focuses on server installation, administration, multiple protocol integration, systems maintenance, and troubleshooting. Includes hands-on class and laboratory assignments. CS and CEG majors may not take this course for credit.

Prerequisite: CEG 210

CEG 220 Introduction to C Programming for Engineers (Credits: 4)

Introduction to digital computers and computer programming with C language. Algorithms and techniques useful to engineers. Data representation, debugging, and program verification. Programming assignments include complex arithmetic. CS and CEG majors may not take this course for credit.

Prerequisite: MTH 229 and EGR 101

CEG 221 Advanced C for Engineers (Credits: 4)

Study and usage of the C programming language beyond what is taught in the introductory course. CEG 220, in the solution of engineering oriented problems.

Prerequisite: CEG 220

CEG 233 Linux and Windows (Credits: 4)

Linux and Windows; GUI; files, directories, permissions; programs, processes; system calls, libraries; loading; dynamic linking; command line shells; scripting languages; regular expressions; clients and servers; Web browsers; secure shell, sftp; SSL/TSL; system administration.

CEG 255 Introduction to the Design of Information Technology Systems (Credits: 4)

Introduction to the design of information systems comprising modern technologies such as SQL database programming, networks, and distributed computing with CORBA, electronic and hypertext (HTML) documents, and multimedia.

Prerequisite: CS 241

CEG 260 Digital Computer Hardware/Switching Circuits (Credits: 4)

(Also listed as EE 260.) Topics include switching algebra and switching functions, logic design of combinational and sequential circuits using TTL, combinational logic design with MSI and LSI, busing, storage elements, and instrumentation. Three hours lecture, two hours lab.

Prerequisite: CS 142 or CS 220 or CS 240 or EGR 153

CEG 305 Fundamentals of Expert Systems (Credits: 4)

Definitions of AI, discussion of the different technologies that comprise the field, introduction to the fundamental concepts and methodologies of expert systems, and hands-on experience developing small expert system applications. CS and CEG majors may not take this course for credit.

Prerequisite: CS 141 or CS 220 or CS 240 or EGR 153

CEG 320 Computer Organization and Assembly Language Programming (Credits: 4)

Terminology and understanding of functional organizations and sequential operation of a digital computer. Program structure, and machine and assembly language topics including addressing, stacks, argument passing, arithmetic operations, traps, and input/output. Macros, modularization, linkers, and debuggers are used. Three hours lecture, two hours lab.

Prerequisite: CS 242 and CEG 260

CEG 330 Object-Oriented Programming in C++ (Credits: 4)

Introduction to the object-oriented programming and the C++ language. Topics include functions, pointers, structures, classes, function/operator overloading, inheritance and virtual functions, template, exceptions, and file input and output.

Prerequisite: CEG 220 or CS 240

CEG 333 Introduction to Unix (Credits: 2)

Introduction to the use of UNIX and UNIX tools as a problem-solving environment. Emphasis on the shell, files and directories, editing files, user process management, compiling, and debugging.

Prerequisite: CS 241

CEG 355 Introduction to the Design of Information Technology Systems (Credits: 4)

Introduction to the design of information systems comprising modern technologies such as SQL database programming, networks, and distributed computing with CORBA, electronic and hypertext (HTML) documents, and multimedia.

Prerequisite: CS 241

CEG 360 Digital System Design (Credits: 4)

(Also listed as EE 451.) Topics include flip-flops, registers, counters, programmable logic devices, memory devices, register-level design, and microcomputer system organization. Students must show competency in the design of digital systems. Three hours lecture, two hours lab.

Prerequisite: CEG 260

CEG 399 Selected Topics (Credits: 1 to 5)

Selected topics in computer engineering.

CEG 402 Computer Networks (Credits: 4)

Survey of modern digital communications techniques. Focus on serial transmission over public communications channels. Topics include information content and coding, asynchronous and synchronous formats, concentrating and multiplexing, channel properties, modulation techniques, common carrier services, error sources and control, regulatory policies, and networks and their analyses. Students must design both hardware and software components of computer communications systems. Three hours lecture, two hours lab.

Prerequisite: CS 240 or CEG 221

CEG 403 Personal Area Networks (Credits: 4)

Introduction to Wireless Personal Area Networks (WPANs). Topics include the networking architectures, protocol design and development, resource management, middleware and agent technologies, safety, security and compatibility and performance analysis in WPANs.

Prerequisite: CEG 402

CEG 404 Wireless Sensor Networks (Credits: 4)

Introduction to wireless sensor networks, fundamental problems and their solutions. Focus on data aggregation, dissemination, localization, power management, security, algorithms and protocol. Students develop applications using Micaz motes and sensors running TinyOS operating system.

Prerequisite: CEG 402

CEG 411 Microprocessor-Based System Design (Credits: 4)

Introduction to the design and development of software and computer-interfacing hardware for effective use of microprocessors in process control, data collecting, and other special-purpose computing systems. Software topics include assembly language programming, input/output, interrupts, direct memory access, and timing problems. For nonmajors only.

Prerequisite: EE 301 and EE 302 and EE 260 and CEG 220 or CS 240

CEG 416 Matrix Computations (Credits: 4)

(Also listed as MTH 416.) Survey of numerical methods in linear algebra emphasizing practice with high-level computer tools. Topics include Gaussian elimination, LU decomposition, numerical eigenvalue problems, QR factorization, least squares, singular value decompositions, and iterative methods.

Prerequisite: MTH 253 or MTH 355 and CS 142 or CS 241

CEG 419 Introduction to Fuzzy Logic Control (Credits: 4)

(Also listed as EE 419.) Foundations and philosophy of fuzzy logic and applications to control theory. Relationship between classical PID control and fuzzy rule-based control. Techniques for rule construction and adaptive fuzzy logic controllers. Case studies of applications. Three hours lecture, two hours lab.

Prerequisite: EE 314 and EE 414

CEG 420 Computer Architecture (Credits: 4)

Introduction to computer architecture, computer system analysis and design, performance and cost, instruction set architecture, processor implementation techniques, pipelining, memory-hierarchy design, input/output, and contemporary architectures.

Prerequisite: CEG 320 and CEG 360

CEG 421 Microcomputer Design Projects (Credits: 4)

In-depth study of the design and use of microcomputer systems. Computer organization and interface facilities are examined. Hardware/software projects are required to develop techniques for hardware and software design of open-ended projects. Three hours lecture, two hours lab.

Prerequisite: CEG 320 and CEG 360

CEG 425 VHISC Hardware Description Language (VHDL) (Credits: 4)

VHDL is an industry-standard language used to describe hardware from the abstract to the concrete level. VHDL is rapidly being embraced as the universal communication medium of design.

Prerequisite: CEG 360 and CS 400

CEG 428 Linear Optical Systems for Computer Engineers (Credits: 4)

Introduction to linear optical systems, transformation properties of optical systems, correlation, convolution, diffraction, applications related to optical computers, such as beam steering for optical interconnection and parallel optical algorithm for pattern search, and neural network.

Prerequisite: EE 321 and EE 322

CEG 429 Internet Security (Credits: 4)

Authentication, address spoofing, hijacking, SYN floods, smurfing, sniffing, routing tricks, and privacy of data en-route. Buffer overruns and other exploitations of software development errors. Hardening of operating systems. Intrusion detection. Firewalls. Ethics. Prerequisite: CEG 402. Must have senior standing or be a first year graduate student to enroll.

Prerequisite: CEG 433

CEG 433 Operating Systems (Credits: 4)

Management of resources in multiuser computer systems. Emphasizes problems of file-system design, process scheduling, memory allocation, protection, and tools needed for solutions.

Course projects use C/C++ language and include designing portions of an operating system.

Prerequisite: CEG 320 and CS 400

CEG 434 Concurrent Software Design (Credits: 4)

Classical problems of synchronization and concurrency and their solutions are examined through course projects and through readings on operating-system design.

Prerequisite: CEG 433

CEG 435 Distributed Computing and Systems (Credits: 4)

Study of process coordination, client-server computing, network and distributed operating systems, network and distributed file systems, concurrency control, recovery of distributed transactions, and fault-tolerant computing.

Prerequisite: CEG 434

CEG 436 Mobile Computing (Credits: 4)

Study networking protocol and system design in mobile computing. Focus on concepts, architecture, design, and performance evaluation of mobile computing principles, protocols and applications, including: wireless TCP, Mobile IP, 802.11, agent techniques, etc.

Prerequisite: CEG 402

CEG 453 Design of Computing Systems (Credits: 4)

Laboratory projects combine engineering hardware and computer-science software concepts in the design and implementation of small, special-purpose computer systems. Three hours lecture, two hours lab.

Prerequisite: CEG 320 and CEG 360

CEG 454 VLSI Design (Credits: 4)

(Also listed as EE 454.) Introduction to VLSI system design. Topics include CMOS devices and circuit design techniques, basic building blocks for CMOS design, fabrication processing and design rules, chip planning and layout, system timing and power dissipation, simulation for VLSI design, and signal processing with VLSI.

Prerequisite: EE 431 and EE 432 and EE 451

CEG 456 Introduction to Robotics (Credits: 4)

(Also listed as EE 456, ME 456.) An introduction to the mathematics, programming, and control of robots. Topics include coordinate systems and transformations, manipulator kinematics and inverse kinematics, trajectory planning, Jacobians, and control.

Prerequisite: MTH 253

CEG 458 Digital Integrated Circuit Design with PLDs and FPGAs (Credits: 4)

(Also listed as EE 458.) Design and application of digital integrated circuits using programmable logic devices (PLDs) and field programmable gate arrays (FPGAs). A commercial set of CAD tools (Mentor Graphics and Xilinx) will be used in the laboratory portion of the course.

Prerequisite: CEG 360 or EE 451 and EE 459

CEG 459 Integrated Circuit Design Synthesis with VHDL (Credits: 4)

(Also listed as EE 459.) Application of VHSIC hardware description language (VHDL) to the design, analysis, multi-level simulation, and synthesis of digital integrated circuits. A commercial set of CAD tools (Mentor Graphics) will be used in the laboratory portion of the course.

Prerequisite: CS 220 and CEG 260

CEG 460 Introduction to Software Engineering (Credits: 4)

Concepts of software engineering. Analysis, design, and implementation of software engineering concepts that comprise structured programming and design. Case studies serve as examples illustrating the software life-cycle model. Three hours lecture, two hours lab.

Prerequisite: CS 400

CEG 461 Object-Oriented Programming and Design (Credits: 4)

Study of object-oriented design and programming. Programming topics emphasize the core concepts of encapsulation, inheritance, polymorphism, and dynamic binding. Additional topics include class organization, software maintenance, and design of reusable components.

Prerequisite: CEG 460

CEG 463 Personal Software Development Process (Credits: 4)

Discusses software development as it relates to the individual, software process measurement, design and code reviews, software quality measurement, design, and design verification. Each student will participate in the development of a software project. Three hours lecture, two hours lab.

Prerequisite: CEG 460

CEG 465 Interactive Systems Modeling, Analysis and Design (Credits: 4)

(Also listed as HFE 465.) Provide students experience in interactive real-time simulation, design, implementation, and evaluation of interfaces to simulations. The relevant topics are explored through application in supervisory control of complex, dynamic systems.

Prerequisite: CEG 220 and CEG 221 or CS 241 or CS 242

CEG 468 Managing the Software Development Process (Credits: 4)

Discusses software development processes, models, and techniques necessary to successfully develop large-scale software. Presents the Capability Maturity Model (CMM). Each student will participate in the development of a software project. Three hours lecture, two hours lab.

Prerequisite: CEG 460

CEG 476 Computer Graphics (Credits: 4)

(Also listed as MTH 476.) Contents: raster graphics algorithms, geometric primitives and their attributes, clipping, antialiasing, geometric transformations, structures and hierarchical models, input devices, and interactive techniques. Students develop interrelated programs to design a three-dimensional hierarchical model, manipulate, and view it.

Prerequisite: CS 400 and MTH 253 or MTH 255

CEG 477 Computer Graphics II (Credits: 4)

(Also listed as MTH 477.) Continuation of CEG 476. Covers surface rendering, hidden line and surface removal, illumination models, texture and mapping, color models, geometric modeling, and graphical interface design. Students develop programs and a final project. Three hours lecture, two hours lab.

Prerequisite: CEG 476 or MTH 476

CEG 478 Coding Theory (Credits: 3)

(Also listed as MTH 456, EE 478.) Introduction to the essentials of error-correcting codes and the study of methods for efficient and accurate transfer of information. Topics to be covered include basic concepts, perfect and related codes, cyclic codes, and BCH codes.

Prerequisite: MTH 253 or MTH 355

CEG 479 Computer Animation (Credits: 4)

Covers transformations, interpolation, morphing, camera control, hierarchical kinematic modeling, rigid-body animation, controlling groups of objects, collision detection, image-based rendering. Students develop three programs and a final project relating to animation.

Prerequisite: CEG 476

CEG 490 Technology-Based Ventures (Credits: 4)

Train students on methods to develop breakthrough products with an entrepreneurial perspective and managerial outlook. Topics include advanced product development, protecting intellectual property, fostering strategic and creative thinking, effectively leading technology-driven teams.

CEG 495 Undergraduate Thesis (Credits: 4)

Completion of a computer engineering research project. Writing and defending a thesis that describes the research and summarizes the results.

Prerequisite: CS 499

CEG 498 Design Experience (Credits: 4)

A summative computer engineering team design project building upon previous engineering, science, mathematics, and communication course work focusing on professional practice in computer science and engineering. Must enroll in two consecutive terms.

CEG 499 Selected Topics (Credits: 1 to 5)

Topics vary. May be taken for letter grade or pass/unsatisfactory.

Chinese/CHI

CHI 101 Beginning Chinese (Credits: 4)

Study of the vocabulary and structure of the Chinese language; practice in conversation, reading and writing.

CHI 102 First-Year Chinese (Credits: 4)

Study of the vocabulary and structure of the Chinese language; practice in conversation, reading and writing.

Prerequisite: CHI 101

CHI 103 First-Year Chinese (Credits: 4)

Study of the vocabulary and structure of the Chinese language; practice in conversation, reading and writing.

Prerequisite: CHI 102

CHI 111 Essentials of Chinese (Credits: 4)

Introduction to Chinese with emphasis on speaking the language.

CHI 201 Second Year Chinese (Credits: 4)

Grammar review, reading, and discussion of selected texts with practice in speaking and writing the language.

Prerequisite: CHI 103

CHI 202 Second Year Chinese (Credits: 4)

Grammar review, reading, and discussion of selected texts with practice in speaking and writing the language.

Prerequisite: CHI 201

CHI 203 Second Year Chinese (Credits: 4)

Grammar review, reading, and discussion of selected texts with practice in speaking and writing the language.

Prerequisite: CHI 202

CHI 311 Chinese Conversation (Credits: 4)

This course will pursue a balance of the four basic language skills: reading, writing, listening and speaking in Chinese with a focus on conversation.

Prerequisite: CHI 203

CHI 312 Chinese Conversation (Credits: 4)

This course is a continuation of Chinese 311 pursuing a balance of the four basic language skills: reading, writing, listening and speaking in Chinese with a focus on conversation.

Prerequisite: CHI 311

CHI 313 Chinese Conversation (Credits: 4)

This course will pursue a balance of the four basic language skills: reading, writing, listening and speaking in Chinese with a focus on conversation.

Prerequisite: CHI 312

Chemistry/CHM

CHM 101 Introduction to Chemistry (Credits: 4.5)

Historical approach to the fundamentals of chemistry: composition and structure, properties and transformations of matter. Three hours lecture, three hours lab.

CHM 102 Elementary Organic Chemistry with Applications (Credits: 4.5)

An elementary discussion of the structure of hydrocarbons, organic functional groups, and a few selected reactions. Three hours lecture, three hours lab.

Prerequisite: CHM 101 or CHM 121

CHM 105 Chemistry of Our World: Living Things (Credits: 4)

Examination of the principles of covalent bonding, structures, and reactions of molecules important to living things, with attention to the technological, regulatory, and social complexities of problems related to them. Three hours lecture, two hours lab.

CHM 106 Chemistry of Our World: Materials (Credits: 4)

Examination of the bonding of metals and nonmetals to explain the nature of familiar materials of industrial importance. Attention to the risk/benefit implications of these materials and technologies for consumers. Three hours lecture, two hours lab.

CHM 107 Chemistry of Our World: Energy and the Environment (Credits: 4)

Examination of gaseous and liquid states and thermochemistry as a basis for understanding air and water quality and fossil and nuclear fuels. Attention to the chemistry of the solar system. Three hours lecture, two hours lab.

CHM 121 General Chemistry I (Credits: 3)

Structure and properties of atoms and molecules and the macroscopic consequences thereof. Three hours lecture, three hours lab, one hour recitation.

CHM 122 General Chemistry 2 (Credits: 3)

Physical and chemical behavior of large collections of atoms and molecules. Three hours lecture, three hours lab, one hour recitation.

CHM 123 General Chemistry 3 (Credits: 3)

Quantitative aspects of chemistry; emphasis on computational and experimental estimation of the composition of chemical systems. Three hours lecture, three hours lab, one hour recitation.

CHM 125 General Chemistry Lab 1 (Credits: 2)

Examination of the principles of General Chemistry 1 through experimentation. Prerequisite: CHM 101 and MTH 127 or WSU Math Level 4 0 or WSU Math Level 4T 0 or WSU Math Level 5 0 or WSU Math Level 6 0 or WSU Math Level 7 0 or WSU Math Level 8 0

CHM 126 General Chemistry Lab 2 (Credits: 2)

Examination of the principles of General Chemistry 2 through experimentation. Prerequisite: CHM 121 and CHM 125

CHM 127 General Chemistry Lab 3 (Credits: 2)

Examination of the principles of General Chemistry 3 through experimentation. Prerequisite: CHM 122 and CHM 126 and MTH 128 or MTH 129 or WSU Math Level 5 0 or WSU Math Level 6 0 or WSU Math Level 7 0 or WSU Math Level 8 0

CHM 191 Modern General Chemistry I: Organic (Credits: 5)

Organic chemistry with its applications is presented with fundamental chemical concepts introduced as they are necessary to explain the subject. Prerequisite: CHM 101 and MTH 127

CHM 192 Modern General Chemistry II: Materials (Credits: 5)

Useful materials are presented from a chemical point of view with fundamental concepts introduced as needed. Prerequisite: CHM 191
Required recitation for CHM 192.

CHM 193 Modern General Chemistry III: Energy (Credits: 5)

The relationships between energy and matter are explored with fundamental chemical concepts introduced as needed. Prerequisite: CHM 192 and MTH 128 or MTH 129

CHM 211 Organic Chemistry I (Credits: 4)

Principles, theories, and applications of the chemistry of carbon compounds. Three hours lecture, one hour recitation. Prerequisite: CHM 123

CHM 212 Organic Chemistry II (Credits: 4)

Principles, theories, and applications of the chemistry of carbon compounds. Three hours lecture, one hour recitation. Prerequisite: CHM 211

CHM 213 Organic Chemistry III (Credits: 4)

Principles, theories, and applications of the chemistry of carbon compounds. Three hours lecture, one hour recitation. Prerequisite: CHM 212

CHM 215 Organic Chemistry Laboratory I (Credits: 2)

Laboratory illustrations of CHM 211 lecture material and techniques of preparative organic chemistry. Prerequisite: CHM 123

CHM 216 Organic Chemistry II Laboratory (Credits: 2)

Laboratory illustrations of CHM 212 lecture material and techniques of preparative organic chemistry. Prerequisite: CHM 215

CHM 217 Organic Chemistry III Laboratory (Credits: 2)

Laboratory illustrations of CHM 213 lecture material and techniques of preparative organic chemistry. Prerequisite: CHM 216

CHM 245 Concepts in Chemistry I (Credits: 4.5)

An accelerated treatment of fundamental concepts and applications of chemistry for elementary education majors. Those concrete observable topics most appropriate for presentation to elementary and middle school students will be emphasized. Demonstrations and activities are used extensively. For elementary education majors. Integrated lecture/lab. Prerequisite: MTH 143

CHM 246 Concepts in Chemistry I (Credits: 4.5)

Fundamental concepts of chemistry for middle childhood science education majors emphasizing topics most appropriate for presentation to middle school students. Course includes a detailed study of heat energy. Prerequisite: SM 145 and MTH 143

CHM 301 Philosophy of Chemistry (Credits: 3)

An upper level course for non-science majors who wish to learn about chemistry from a philosophical and humanist viewpoint.

CHM 302 Environmental Chemistry (Credits: 4)

(Also listed as CHM 502.) Water, air, and soil chemistry including pollutants added to these environments and how they interact to create environmental problems. Three hours lecture, three hours lab.

Prerequisite: CHM 123 or CHM 193

CHM 310 Issues in Science (Credits: 3)

(Also listed as BIO 310, PHY 310, MTH 310, and EES 310.) A writing-intensive course dealing with issues in science.

Prerequisite: ENG 101 and ENG 102

CHM 312 Quantitative Analysis (Credits: 3)

Introduction to chemical methods of analysis covering traditional as well as modern techniques and equipment; emphasis on calculations and the interpretation of analytical data.

Prerequisite: CHM 123

CHM 314 Quantitative Analysis Laboratory (Credits: 4.5)

Experimental methods of analysis. Practical applications of lecture material presented in CHM 312.

Prerequisite: CHM 123

CHM 346 Concepts in Chemistry II (Credits: 4.5)

Based on National Science Education Standards. Topics include: periodic table, chemical reactions, thermochemistry, organic and nuclear chemistry with everyday examples. Inquiry-based activities including historical and societal perspectives. For Middle Childhood Majors pursuing science concentration. Integrated lecture/lab.

Prerequisite: MTH 244 and CHM 246 and PHY 246

CHM 361 The Organic Chemistry of Engineering Materials (Credits: 4)

Molecular structure, stereochemistry, properties, and reactivities of selected organic substances of industrial importance, including fuels, lubricants, solvents, coatings, plastics, dyes, and naturally occurring engineering materials. Not open to students with credit for CHM 212.

Prerequisite: CHM 122

CHM 402 Advanced Environmental Chemistry and Analysis (Credits: 4)

(Also listed as CHM 602.) Environmental sampling and analysis using instrumental techniques. Chemical fate prediction by measurement and examination of physical and chemical properties. Three hours lecture, three hours lab.

Prerequisite: CHM 312 and CHM 314 and CHM 213

CHM 410 Environmental Chemistry I: Air (Credits: 3.5)

Study of the Earth's atmosphere including its normal composition and atmospheric reactions; emphasis on nature, causes, effects, detection, and abatement of various types of air pollution. Two hours lecture, three hours lab, or field project.

Prerequisite: CHM 213 and CHM 312

CHM 411 Environmental Chemistry II: Water (Credits: 3.5)

Study of the Earth's fresh and saline water including its normal composition and aquatic reactions; emphasis on nature, causes, effects, detection, and abatement of various types of water pollution. Two hours lecture, three hours lab or field project.

Prerequisite: CHM 213 and CHM 312

CHM 412 Environmental Chemistry III: Solids (Credits: 3.5)

A survey of the problems of solid wastes, pesticides, food additives, and radioactive materials including their chemical composition, effects, detection, disposal, and natural breakdown. Three hours lecture, one hour lab or field project.

CHM 417 Applied Chemical Spectroscopy (Credits: 3)

The practical applications of various spectrophotometrical techniques (mass spectroscopy, infrared spectroscopy, ultraviolet spectroscopy, and nuclear magnetic resonance) are integrated for the elucidation of the structure of organic molecules. A problem-solving approach is used.

Prerequisite: CHM 213 and CHM 312 and CHM 452

CHM 419 Chemical Literature and Composition (Credits: 3)

Literature searching of journals, handbooks, abstracts, and patents. Writing of literature reports, abstracts, papers, and reports. Three lectures.

Prerequisite: CHM 212 and CHM 451

CHM 420 Inorganic Chemistry (Credits: 3)

Principles and concepts of inorganic chemistry including the periodic table, atomic structure, chemical bonding, coordination compounds, and an introduction to group theory.

Prerequisite: CHM 453

CHM 421 Inorganic Chemistry (Credits: 3)

Principles and concepts of inorganic chemistry including the periodic table, atomic structure, chemical bonding, coordination compounds, and an introduction to group theory.

Prerequisite: CHM 453

CHM 425 Advanced Inorganic Synthesis and Characterization (Credits: 3)

Advanced synthesis and characterization of representative inorganic compounds.

Prerequisite: CHM 417 and CHM 420

CHM 435 Instrumental Analysis (Credits: 3)

Introduction to the theory and practice of modern chemical instrumentation. Elementary electronics, spectrophotometry, atomic absorption, electrochemical techniques, chromatography, and other instrumental techniques.

Prerequisite: CHM 312 and CHM 452

CHM 436 Instrumental Analysis Laboratory (Credits: 4.5)

Introduction to experimental instrumental analysis. Practical experience in the operation of chemical instrumentation; emphasizes applications of material presented in CHM 435.

Prerequisite: CHM 312 and CHM 452

CHM 437 Electroanalytical Chemistry (Credits: 3)

Fundamental principles of electrochemistry and the application of electrochemical methods to chemistry and chemical analysis.

Prerequisite: CHM 312

CHM 440 Synthetic Medicinal Chemistry I (Credits: 3)

Covers various chemical aspects of drugs including synthetic design, mode of action, and uses of various pharmaceuticals. Topics include cardiovascular agents, antibiotics, anti-tumor agents, and central nervous system drugs.

Prerequisite: CHM 213

CHM 441 Synthetic Medicinal Chemistry II (Credits: 3)

Covers various chemical aspects of drugs including synthetic design, mode of action, and uses of various pharmaceuticals. Topics include cardiovascular agents, antibiotics, anti-tumor agents, and central nervous system drugs.

Prerequisite: CHM 213

CHM 443 Chemical Toxicology I: Drugs (Credits: 3)

Study of the basic principles of chemical toxicology. Chemicals that have the greatest incidence of abuse are discussed in detail with regard to their chemical-biological interactions, symptomatology of toxicity, clinical chemistry tests, and treatment.

Prerequisite: CHM 213 and CHM 312

CHM 444 Chemical Toxicology II: Environmental (Credits: 3)

Study of the basic principles of chemical toxicology. Chemicals that have the greatest incidence of abuse are discussed in detail with regard to their chemical-biological interactions, symptomatology of toxicity, clinical chemistry tests, and treatment.

Prerequisite: CHM 213 and CHM 312

CHM 445 Advanced Organic Synthesis and Characterization (Credits: 3)

Advanced synthesis and identification of organic compounds. One hour lecture, four hours lab.

Prerequisite: CHM 213 and CHM 217 and CHM 417

CHM 451 Physical Chemistry (Credits: 3)

Theoretical aspects of chemistry including thermodynamics, chemical kinetics, molecular structure and spectra, and the structure of solids and liquids.

Prerequisite: CHM 123 and MTH 231 and PHY 242 or PHY 113

CHM 452 Physical Chemistry (Credits: 3)

Theoretical aspects of chemistry including thermodynamics, chemical kinetics, molecular structure and spectra, and the structure of solids and liquids.

Prerequisite: CHM 451

CHM 453 Physical Chemistry (Credits: 3)

Theoretical aspects of chemistry including thermodynamics, chemical kinetics, molecular structure and spectra, and the structure of solids and liquids.

Prerequisite: CHM 452

CHM 456 Physical Chemistry for Non-Chemists (Credits: 4)

An introduction for non-chemistry majors to the ideas of physical chemistry, including thermodynamics, properties of liquids and solids, solution properties, and kinetics. Intended for biologists, geologists, physicists, premedical students and others with an interest in physical chemistry.

CHM 457 Physical Chemistry Laboratory I (Credits: 3)

Experimental methods of physical chemistry.

Corequisite: CHM 452

Prerequisite: CHM 312 and CHM 314

CHM 458 Physical Chemistry Laboratory II (Credits: 3)

Experimental methods of physical chemistry.

Prerequisite: CHM 457

CHM 461 Synthetic Polymer Chemistry (Credits: 3)

Step-growth and chain-growth polymerization in homogeneous and heterogeneous media; properties of commercial polymers.

Prerequisite: CHM 213 and CHM 451 or CHM 361

CHM 465 Physical Polymer Chemistry (Credits: 3)

Introduction to the structural and physical aspects of macromolecules; emphasis on the relationship of polymer structure to physical and mechanical properties.

Prerequisite: CHM 213 and CHM 452 or CHM 361

CHM 467 Physical Polymer Chemistry Laboratory (Credits: 1 to 2)

Laboratory illustrations of CHM 465 lecture material and techniques of polymer science.

CHM 468 Polymer Synthesis Laboratory (Credits: 1 to 2)

Laboratory illustrations of CHM 461 lecture material and techniques of polymer science.
Prerequisite: CHM 461

CHM 469 Engineering Plastics: Materials, Processes and Design (Credits: 4)

(Also listed as ME 489.) Properties and manufacturing processes of engineering plastics, and effects of these factors on plastics design. Illustrative laboratory projects are included. Two hours lecture, four hours lab.
Prerequisite: CHM 465

CHM 472 Chemical Crystallography (Credits: 4)

Methodology and techniques in the determination of crystal and molecular structures using single-crystal x-ray diffraction.
Prerequisite: CHM 213 and CHM 451

CHM 479 Materials Corrosion (Credits: 4)

(Also listed as ME 479.) Survey of principles of corrosion processes with application to metallic and nonmetallic materials. Principles of electrochemistry are included.
Prerequisite: ME 315 and ME 371 or CHM 453

Clinical Laboratory Science/CL

CL 150 Phlebotomy (Credits: 5)

Theory and technique for obtaining blood specimens, including application of responsibilities associated with blood drawing in a clinical laboratory. Course spans two quarters. Graduates are eligible for national certification by exam.

CL 194 Careers in Environmental Health, Exercise Biology, Clinical Laboratory and Life Sciences (Credits: 1)

Provide students with an overview of the programs and career options in Biology, Clinical Laboratory Science, Exercise Biology and Environmental Health Science.

CL 420 Orientation to Clinical Laboratory Science (Credits: 2)

Theory and application of lab safety, universal precautions, specimen collection, quality assurance, and other techniques fundamental to clinical laboratory.

CL 422 Laboratory Management (Credits: 2)

Principles of education, laboratory management computer application and completion and presentation of a scientific project (includes one week clinical rotation).

CL 423 Clinical Pathology Seminar (Credits: 2)

Correlation of clinical findings through case studies.

CL 431 Urinalysis of Body and Fluid Analysis (Credits: 3)

Study of body fluids, including the pathophysiology of their formation and the biochemical and morphologic methods used to obtain diagnostic information. Lecture and laboratory.

CL 441 Hematology (Credits: 4)

Theory and application of principles of hematology, including hematopoiesis, counting and identification of cells in the peripheral blood, and the use of cellular morphology to diagnose disease. Lecture and laboratory.

CL 442 Advanced Hematology (Credits: 2)

Advanced topics in hematology with an emphasis on the diagnosis and treatment of anemias, myelodysplastic and myeloproliferative disorders.

CL 443 Clinical Hematology Practicum (Credits: 5)

Practical application of hematology techniques at clinical site.

CL 451 Principles of Hemostasis (Credits: 2)

Principles of hemostasis involved in blood vessel contraction, platelet activation and formation, and activation of coagulation factors, and their use in diagnosing coagulation defects and monitoring anticoagulant therapy. Lecture and laboratory.

CL 461 Clinical Chemistry (Credits: 4)

Theory and application of human biochemistry and principles of chemistry techniques used in the analysis of blood and other body fluids. Lecture and laboratory.

CL 462 Advanced Clinical Chemistry (Credits: 3)

Study of endocrine system, inborn errors of metabolism, toxicology, the role of tumor markers in cancer diagnosis and management, and other advanced topics in clinical chemistry.

CL 463 Clinical Chemistry Practicum (Credits: 5)

Practical application of clinical chemistry techniques at clinical site.

CL 471 Diagnostic Biology (Credits: 5)

Study of media composition and selection, biochemical techniques used to identify bacteria and related physiology, antibiotic susceptibility of bacteria and discussion and identification of parasites. Lecture and laboratory.

CL 472 Advanced Diagnostic Microbiology (Credits: 2)

Study of characteristics, pathophysiologic mechanisms and identification of Chlamydia, fungi, viruses and other organisms and the methods used to diagnose and treat related diseases. Lecture only.

CL 473 Clinical Microbiology Practicum (Credits: 5)
Practical application of microbiology techniques at clinical site.

CL 481 Immunology/Serology (Credits: 4)
Study of antigens and the stimulation of antibodies in vivo, and the use of these reactions to perform in vitro testing to diagnose and monitor the course of disease. Lecture and laboratory.

CL 491 Immunohematology/Transfusion Medicine (Credits: 3)

Theory and application of immunology; specifically the use of antigens and antibodies in blood grouping and transfusion medicine.

CL 492 Advanced Immunohematology (Credits: 2)
Advanced topics in transfusion medicine, including immune hemolytic anemias, paternity testing, component therapy, HLA antigens, quality assurance and the role of regulatory agencies in the practice of transfusion medicine. Lecture only.

CL 493 Clinical Transfusion Medicine Practicum (Credits: 4)

Practical application of transfusion medicine techniques at clinical site.

Classics/CLS

CLS 100 Latin and Greek Roots in English (Credits: 4)
Builds English vocabulary through a study of Latin and Greek roots. Emphasis on words used commonly in higher education rather than on specialized terminology.

CLS 101 Medical and Scientific Terminology (Credits: 4)
Spelling, recognition, and understanding contemporary specialized medical and scientific vocabulary that is based on the Latin and Greek languages. Emphasis on terminology of the medical sciences.

CLS 150 Introduction to Greek and Roman Culture (Credits: 4)
Survey of the development of classical culture from prehistoric Greece to the fall of the Roman Empire. A broad view of the interrelated political, economic, and social conditions, and philosophy, religion, mythology, literature, art, and architecture.

CLS 160 Introduction to Classical Mythology (Credits: 3)
Survey of the myths and legends of ancient Greece and Rome that are an important part of the Western literary and cultural tradition. Emphasis on story patterns and characters.

CLS 204 Great Books: Classical Beginnings (Credits: 4)
Reading, discussion, analysis of selected texts from ancient Greece and Rome; for example, the works of Homer, Sophocles, Plato, Virgil, Cicero, Horace.

CLS 260 Introduction to Classical Mythology (Credits: 4)
A survey of the myths and legends of ancient Greece and Rome which are an important part of the Western literary and cultural tradition. The emphasis will be on story patterns and characters.

CLS 300 How We Know Antiquity (Credits: 4)
How do we know what we think we know about classical antiquity? Study of the different types of evidence and of ways in which this evidence is analyzed, handled, and interpreted by scholars.

CLS 310 Golden Age of Greece (Credits: 4)
Greek experience in fifth and fourth centuries B.C. with emphasis on Athenian democracy and the Golden Age of Athens: drama, history, oratory, and philosophy.

CLS 320 Rome: Republic and Empire (Credits: 4)
Emphasis on late republic and early empire, particularly the Augustan age. The idealism of Virgil and Lucretius; the realism of Cicero, Sallust, and Tacitus.

CLS 330 Studies in Ancient Literature (Credits: 4)
Drama, epic, and lyric poetry; prose; selected themes in ancient literature; and literary criticism.

CLS 340 Ancient Art and Archaeology (Credits: 4)
(Also listed as ART 411.) Greece in the Bronze Age; classical Greece and Rome; and selected areas of Greek and Roman archaeology.

CLS 350 Studies in Ancient Culture and Society (Credits: 4)
Greek and Roman civilization with evidence from art, literature, archaeology, law, and other sources.

CLS 360 Studies in Ancient Mythology (Credits: 4)
Greek and Roman mythology; aspects and approaches to the study of myths; and archaeological and nonliterary sources.

CLS 370 Studies in Ancient Law, Government, and Politics (Credits: 4)
Law and legal systems of Greece and Rome; government and administration; and political problems of the ancient world.

CLS 399 Studies in Selected Subjects (Credits: 1 to 4)
Course of variable content dealing with problems, approaches, and topics in the field of classics.

CLS 410 Advanced Studies in Antiquity (Credits: 4)
Literature, mythology, law and government, art and archaeology, culture and society. Students must consult Department of Classics before registering.

CLS 481 Independent Reading (Credits: 4)
Directed studies in literature, mythology, archaeology, law, and government. For classical humanities majors only.

CLS 499 Senior Comprehensive Review (Credits: 2)

Required of majors in the classics, Greek, or Latin. Independent study and review leading to comprehensive examination based on the course work undertaken by each individual student.

Counseling/CNL**CNL 210 Understanding Emotional Intelligence (Credits: 4)**

This course explores the topic of emotional intelligence and its relevance to I.Q. The course will focus on the benefits of emotional intelligence and its application to education of youth.

CNL 461 Principles of Counseling (Credits: 4)

Overview of major counseling theories and techniques. Review of historical foundations of the mental health movement. Social, psychological, and philosophical influences are considered.

CNL 463 Mental Health (Credits: 4)

Factors influencing behavior of individuals; methods a counselor may use in observing, analyzing, and improving attitudes and behavior.

CNL 464 Crisis Intervention (Credits: 4)

Introduction to the background, theory, practice, and needs of crisis intervention within the helping professions. A variety of crisis intervention models are explored, as are the various community resources available to the crisis intervention worker.

Prerequisite: CNL 461

CNL 467 Group Background and Theory (Credits: 4)

Surveys the background, theory, patterns of function, technique of facilitating, and use of small groups in counseling.

Prerequisite: CNL 461 and RHB 407

CNL 470 Workshop in: (Credits: 1 to 6)

Intensive study of selected areas from counselor education to meet the particular needs of participating students, schools, and agencies.

Communication/COM**COM 101 Essentials of Public Address (Credits: 4)**

Fundamentals of verbal and nonverbal communication in platform speaking. Discussion and practice in vocal and physical delivery and in purposeful organization and development of a speech.

COM 103 Communication for Teachers (Credits: 3)

Examination of types of communication in the classroom. Principles and practice of oral and written communication in story-telling, lecturing, discussion, and interpersonal communication.

COM 104 Introduction to Human Communication (Credits: 4)

This course surveys major concepts, theories, and research approaches in the study of human communication. The course assists students in developing requisite knowledge and skills in the development of their own communication competence.

COM 130 Introduction to Communication Activities (Credits: 1)

Research, practice, and participation in communication forums, symposia, or an oral communication project designed to meet the interest of individual students. Independent study. Graded pass/unsatisfactory.

COM 152 Mass Communication (Credits: 4)

Study of mass media functions, industries, and effects to help students become more critical mass media consumers and contributors.

COM 200 Writing to Communicate (Credits: 4)

Instruction and practice in writing to inform and persuade, emphasizing analysis of purpose, strategy, organization, style, and correct language. Instruction in use of information sources, including computer-linked data bases.

COM 203 Business Communication (Credits: 3)

Interorganizational communication skills for job interviewing, persuasive proposals, departmental meetings, oral report presentations, and job appraisals are experienced along with employee communications to accomplish job tasks.

COM 221 Speaking in Professional Contexts (Credits: 4)

Theory and practice of speaking in professional contexts. Experience in preparation and delivery of professional presentations.

Prerequisite: COM 101

COM 253 Basic Video Production (Credits: 3)

(Also listed as TH 253.) A basic introduction to the use of video production equipment using lecture, demonstration, and experiential approaches. Appropriate laboratory time provided in television studio.

Prerequisite: COM 152

COM 256 Basic Media Writing (Credits: 4)

(Also listed as ENG 257.) Introduction to writing for media. Structure and organization of media copy. Course requires reporting in the field.

Prerequisite: COM 152

COM 325 Health Communication (Credits: 4)

Examination of the basic themes and issues that have developed in health communication research including physician-patient and nurse-patient communications, organizational communication in health care organizations, and relationships among care providers.

COM 330 Advanced Communication Activities (Credits: 1)

Research, practice, and participation in communication forums, symposia, or an oral communication project designed to meet the interest of individual students. Independent study. Graded pass/unsatisfactory.

COM 333 Persuasion and Rhetorical Theory (Credits: 4)

Delineation of the concept of persuasion together with an overview of general rhetorical theory. Experience in preparation and presentation of persuasive communication.
Prerequisite: COM 101

COM 345 Public Relations: Principles and Practice (Credits: 4)

Simulation focusing on the processes of a public-relations campaign: fact finding, action planning, implementation of communication channels, and program evaluation. Experiences focus on one internal and one external campaign for students.
Prerequisite: COM 256

COM 346 Public Relations Campaign Techniques (Credits: 4)

Development of skills necessary for effective planning and implementation of public relations campaigns. Includes audiences and media analysis, and the design and writing of a variety of campaign materials.
Prerequisite: COM 345

COM 347 Case Studies in Public Relations (Credits: 4)

In-depth analysis of the public relations process through an examination of various cases involving public relations problems.
Prerequisite: COM 345

COM 358 Emerging Communication Technologies (Credits: 4)

Examines developing communication technologies with emphasis on alternative delivery systems.
Prerequisite: COM 256

COM 360 Broadcast Journalism (Credits: 4)

Examination of broadcast news with special attention given to coverage, selection, and reporting of the news.
Prerequisite: COM 256

COM 364 Communication Graphics (Credits: 4)

(Also listed as ENG 364.) Introduces basic principles of graphics communication, primarily as applied to print media. Includes history and basic concepts of graphics communication, typography, photo editing, and graphic design.

COM 365 Issues in Mass Communication (Credits: 4)

An in-depth examination of the major issues facing the American mass media, including such topics as media effects, content of programming, the commercialization of public broadcasting, media ownership, children's programming, and others.
Prerequisite: COM 152

COM 366 Advanced News Writing (Credits: 4)

(Also listed as ENG 366.) Advanced study of writing skills, practices, and procedures used in reporting news for mass media. Actual reporting in the field is required. News writing skills introduced in COM 256 are further refined.
Prerequisite: COM 256

COM 368 Photographic Communication (Credits: 4)

Introduces basic principles of visual literacy and visual communication, and utilization of light and shadow, creative devices, and other techniques in creation of photographs and multi-picture layouts suitable for publication in mass media.

COM 370 Dispute Resolution (Credits: 4)

Conflict is a normal and inevitable consequence of human existence. This course focuses on the nature and cause of conflict, the impact of communication on conflict escalation, and the process of conflict resolution.

COM 399 Selected Studies in Subjects (Credits: 1 to 4)

Problems, approaches, and topics in the field of speech. Topics vary.

COM 400 Senior Portfolio (Credits: 2)

A capstone course in which advanced communication majors develop portfolios to demonstrate achievements as preparation for careers in professional or academic areas of communication. Course includes formal assessment of communication skills. Senior standing required.

COM 401 Communication Theory (Credits: 4)

A study of various classical and contemporary theories of communication. An examination of theories related to communication systems, communication interaction, and social contexts.
Prerequisite: COM 101 and COM 102 and COM 141 and COM 152

COM 411 Performance for the Media (Credits: 4)

Development of skills necessary for effective television and radio presentations. Study of criteria for selecting appropriate talent and frequent practice in a wide range of media settings.

COM 429 Urban Communications Theory (Credits: 4)

(Also listed as PLS 429.) Processes and institutions by which individuals and groups communicate in an urban environment. Model of an urban communication system developed by interdisciplinary systems approach.

COM 432 Race, Class and Gender in Communication (Credits: 4)

Theoretical and pragmatic consideration of the impact of race, class, and gender on the communication process within society.
Prerequisite: COM 102 COM 104

COM 439 Freedom of Speech (Credits: 4)

Study of the growth and development of free speech in the United States. Emphasizes the development of definitions of free speech and various communication strategies in different settings.

Prerequisite: COM 101

COM 441 Advanced Interpersonal Communication (Credits: 4)

In-depth view of interpersonal communication skills: presenting, receiving, and challenging. A group context is used to promote self-directed changes in interpersonal style.

Prerequisite: COM 102

COM 443 Interviewing (Credits: 4)

Through a matrix organizational structure, students experience theory in selection, survey, journalistic, performance appraisal, persuasion, and counseling interviewing situations with the focus on human resource development.

COM 446 Organizational Communication Theory (Credits: 4)

Elements of the communication process as pertinent to the field of organizational communication. By developing understanding, a framework is established for contextual applications of the features of organizations.

COM 447 Communication Relationships in Organizations (Credits: 4)

This course examines factors that help and hinder effective professional relationships. Two major course goals are to increase understanding of interpersonal relationships and to apply the knowledge to individual and organizational goals.

Prerequisite: COM 446

COM 448 Communication Strategic Leadership (Credits: 4)

This course provides students with an understanding of the relationship between communication and leadership. The course examines how communication theories provide a context for understanding how to effectively facilitate change within groups.

Prerequisite: COM 446 and COM 447

COM 449 Survey of Communication Research (Credits: 4)

Provides a basic knowledge of the behavioral approach and current theories and experiments in communications research.

COM 451 Communication Training Methods (Credits: 4)

This course examines the design and implementation of communication training programs including ethics, needs assessment, and evaluation. Students will develop training plans and materials and apply those in actual training presentations.

Prerequisite: COM 447

COM 452 Communication Consulting (Credits: 4)

This course is designed to provide a theoretical and practical understanding of communication consulting. Issues covered include ethics, needs assessment and evaluation, design and implementation, and communication variables in the client/consultant relationship.

Prerequisite: COM 446

COM 453 Negotiating and Bargaining Communication (Credits: 4)

This course focuses on the theory and processes of negotiation to help students understand the behavior of individuals in competitive situations. The course is designed to cover a broad spectrum of negotiation problems.

COM 454 Feature Story Writing (Credits: 4)

(Also listed as ENG 454.) Finding, writing, polishing, and marketing feature material.

Prerequisite: COM 256

COM 455 Nonverbal Communication (Credits: 4)

Theory, survey of research, and experiential learning in nonverbal communication. Exploration of types and forms, and methods of sending and receiving nonverbal communication.

Prerequisite: COM 102 and COM 141

COM 457 Intercultural Communication (Credits: 4)

Study of communication in intercultural environments. Emphasis on research and theory to better understand the complexity of intercultural communication interactions.

COM 458 Editing for the Media (Credits: 4)

(Also listed as ENG 458.) Editing of copy for mass media with special emphasis on newspaper format, headline writing, rewriting, and general copy desk.

Prerequisite: COM 256

COM 460 Programming and Management of Electronic Media (Credits: 4)

Analysis of programs and program strategies for broadcast and other electronic media. Emphasis on information for managing these media.

COM 462 Mass Media: Law and Regulation (Credits: 4)

Study of laws and regulations affecting mass media.

Prerequisite: COM 256

COM 464 Broadcast Criticism (Credits: 4)

Analysis of contemporary programming and production practices including the development of critical standards for evaluation.

Prerequisite: COM 256

COM 471 Topics in Communication (Credits: 4)

Examination of special topics in the various areas of speech communication. Titles vary.

COM 475 Dispute Systems Design (Credits: 4)

This course examines the design and implementation of dispute resolution systems to achieve fairness and efficacy. Various methods of dispute resolution including negotiation, conciliation, mediation and arbitration will be examined in different contexts.

Prerequisite: COM 370

COM 481 Independent Study (Credits: 1 to 4)

Faculty-directed readings and research.

COM 482 Senior Honors Project (Credits: 1 to 4)

Independent studies course that allows students to pursue research that culminates in a senior honors thesis or project.

COM 491 Communication Techniques and Evaluation (Credits: 1)

Philosophy and techniques of conducting communication events. Includes the planning, initiating, and summarizing of communication activities, and evaluating written and oral performance.

Comparative Literature/CPL

CPL 310 Problems in Comparative Literature Science, Religion and Literature (Credits: 4)

Readings in comparative literature dealing with themes, myths, genres, literary movements, or characters; e.g., the myth of Electra in the modern theater, the picaresque novel, existentialism in European fiction, and the ambitious hero in literature.

CPL 399 Studies-Selected Subjects (Credits: 1 to 4)

Problems, approaches, and topics in the field of comparative literature. Topics vary.

CPL 405 Theory of Comparative Literature (Credits: 4)

History and development of comparative literature as a discipline; study of basic reference works and journals; papers and reports based on comparative studies.

Computer Science/CS

CS 141 Computer Programming I (Credits: 4)

Introduction to use of computers as a problem-solving tool. Examples from and applications to a broad range of problems. Methodology for algorithm design and for structured modular implementation is stressed. Three hours lecture, two hours lab.

Prerequisite: MTH 127

CS 142 Computer Programming II (Credits: 4)

Concepts introduced in CS 141 are developed in greater detail and depth. Emphasis on verification and testing of programs. Three hours lecture, two hours lab.

Prerequisite: CS 141

CS 205 Computer Literacy and Office Automation (Credits: 4)

Introductory course in the use of computers in a professional environment. Personal computer work stations are employed and used for popular applications (e.g., word processing, spreadsheets and data base management, and electronic mail). Two hours lecture, four hours lab.

CS 206 Computer Software Productivity Tools (Credits: 4)

Advanced use of application software to increase productivity. Covers sharing data and files among different packages, spreadsheet macros and database integration.

Prerequisite: CS 205

CS 207 Advanced Office Productivity II (Credits: 4)

Emphasis is placed on understanding how packages interact within an integrated environment. Personal computers are used for sophisticated word processing and desktop publishing projects. State-of-the-art presentation techniques such as hypertext will be discussed.

Prerequisite: CS 205 and CS 206

CS 208 Computer Programming for Business I (Credits: 4)

Introduces basic concepts of programming. Examples are from business applications and display graphics. Emphasis is on problem solving with the computer as a tool.

Prerequisite: CS 205 and MTH 129

CS 209 Computer Programming for Business II (Credits: 4)

Continuation of CS 208. Introduces the basic concepts of programming. Examples are from business applications and display graphics. Emphasis is on problem solving with the computer as a tool.

Prerequisite: CS 208

CS 214 Object Based Programming (Credits: 4)

An introductory course to the use of graphic objects in a windows event-driven environment providing a case study of object-oriented programming with Visual Basic in Microsoft Windows to develop simple graphic user interfaces. Need to be familiar with programming concepts.

CS 225 ADA Programming (Credits: 4)

Introduction to computer programming with ADA language relative to the software engineering environment. CS and CEG majors may not take this course for credit.

Prerequisite: CS 141

CS 240 Computer Science I (Credits: 4)

Basic concepts of programming and programming languages are introduced. Emphasis is on structured programming and stepwise refinement.

Prerequisite: MTH 130

CS 241 Computer Science II (Credits: 4)

A continuation of CS 240. The emphasis is on data abstraction and software engineering.

Prerequisite: CS 240 and MTH 130 and MTH 131

CS 242 Computer Science III (Credits: 4)

Further refinement of the concepts covered in CS 241.

Prerequisite: CS 241 and MTH 229 or EGR 101

CS 271 Intro to Bioinformatics (Credits: 4)

Tools-oriented approach to bioinformatics emphasizing data structure and DNA, string representation in PERL, data searches, pairwise alignments, substitution patterns, protein structure prediction and modeling, proteomics, and the use of web-based bioinformatic tools.

CS 302 Client Server Databases (Credits: 4)

Relational client server database design and access techniques. Includes building database tables, writing SQL statements/programs, and developing user interfaces and reports for data retrieval using Internet. Not for credit for CS/CEG majors.

Prerequisite: CS 141 or CS 208

CS 315 Job Control Language (Credits: 2)

Introduces System 370 Job Control Language. Studies the various JCL statements. Programming exercises are assigned to give students the practical experience needed to create and run various jobs.

Prerequisite: CS 142

CS 316 Numerical Methods for Digital Computers I (Credits: 4)

Introduction to numerical methods used in the sciences. Methods of interpolation, data smoothing, functional approximation, integration, solutions of systems of equations, and solutions of ordinary differential equations. Three hours lecture, two hours lab.

Prerequisite: CS 142 or EGR 153 or CS 241 or CEG 220 and MTH 231 and MTH 253 or MTH 255

CS 317 Numerical Methods for Digital Computers II (Credits: 4)

An introduction to numerical methods used in the sciences. Included will be methods of interpolation, data smoothing, functional approximation, integration, solutions of systems of equations, and solutions of ordinary differential equation. 3 hrs lecture, 2 hrs. laboratory.

Prerequisite: CS 316 and MTH 233 or MTH 235 and MTH 253 or MTH 355

CS 340 Programming Language Workshop (Credits: 1)

Self-directed study in computer languages. Individual workshops are offered in significant languages such as JAVA, COBOL, PL/1, SNOBOL, LISP, SIMSCRIPT, and GPSS. May be taken for letter grade or pass/unsatisfactory.

Prerequisite: CS 400

CS 350 Computational Tools and Techniques for Data Analysis (Credits: 4)

Introduction to the representation, visualization, and modeling of large data sets. Data analysis using standard high level software tools. Topics include data filtering, clustering, classification, and data mining.

CS 399 Selected Topics (Credits: 1 to 5)

Selected topics in computer science. May be taken for letter grade or pass/unsatisfactory.

CS 400 Data Structures and Software Design (Credits: 4)

Study of the implementation of data structures and control structures in professional computer programs. Introduction to the fundamentals of complexity and analysis. Study of common standard problems and solutions (e.g., transitive closure and critical path). Emphasis on high-level language software design. Three hours lecture, two hours lab.

Prerequisite: CS 242 and MTH 257 and CEG 333 and MTH 235 or MTH 253

CS 405 Introduction to Data Base Management Systems (Credits: 4)

Survey of logical and physical aspects of database management systems, including entity-relationship and relational data models; physical implementation methods; query languages; SQL, relational algebra, relational calculus, and QBE; experience in creating and manipulating databases.

Prerequisite: CS 400

CS 407 Optimization Techniques (Credits: 3)

(Also listed as MTH 407.) Concepts of minima and maxima; linear programming; simplex method, sensitivity, and duality; transportation and assignment problems; and dynamic programming.

Prerequisite: MTH 233 and MTH 253 or MTH 255

CS 409 Principles of Artificial Intelligence (Credits: 4)

Problem-solving methods in artificial intelligence (AI) with emphasis on heuristic approaches. Topics include methods of representation, search, intelligent agents, planning, learning, natural language processing, logic, inference, robotics, and case-based reasoning. Three hours lecture, two hours lab.

Prerequisite: CS 400 and CS 340

CS 410 Theoretical Foundations of Computing (Credits: 4)

(Also listed as MTH 410.) Turing machines; partial-recursive functions; equivalence of computing paradigms; Church-Turing thesis; undecidability; intractability.

Prerequisite: CS 466

CS 415 Social Implications of Computing (Credits: 3)

Examines the impact of computers and computing on society. Topics include privacy, dangers introduced by computers performing critical tasks, the effect of robots on the work force, the impact of computers on education, and the new legal issues introduced by computing.

CS 419 Cryptography and Data Security (Credits: 3)

(Also listed as MTH 419.) Introduction to the mathematical principles of data security. Various developments in cryptography are discussed, including public-key encryption, digital signatures, the data encryption standard (DES), and key safeguarding schemes.

Prerequisite: MTH 253 or MTH 255

CS 458 Applied Graph Theory (Credits: 3)

(Also listed as MTH 458.) Introduction to methods, results, and algorithms from graph theory. Emphasis on graphs as mathematical models applicable to organizational and industrial situations.

Prerequisite: CS 142 or CS 241 and MTH 231

CS 459 Combinatorial Tools for Computer Science (Credits: 3)

(Also listed as MTH 459.) Introduction to some of the mathematical tools needed for an understanding of computer programming. The topics covered are summations, elementary number theory, combinatorial identities, generating functions, and asymptotics.

Prerequisite: MTH 280 and MTH 457

CS 466 Introduction to Formal Languages (Credits: 4)

Introduction to the theory of formal languages and automata. Emphasis is on those classes of languages commonly encountered by computer scientists (e.g., regular and context-free languages).

Prerequisite: MTH 257 and CS 400

CS 470 Systems Simulation (Credits: 4)

Introduction to simulation and comparison with other techniques. Discrete simulation models. Introduction to queuing theory and stochastic processes. Comparison of simulation languages. Simulation methodology and selected applications. Three hours lecture, two hours lab.

Prerequisite: CS 400 and STT 366 or STT 363

CS 471 Algorithms for Bioinformatics (Credits: 4)

Theory-orientated approach to the application of contemporary algorithms to bioinformatics. Graph theory, complexity theory, dynamic programming and optimization techniques are introduced in the context of application toward solving specific computational problems in molecular genetics.

Prerequisite: BIO 271 and CS 399 and CS 400 and BIO 210 and BIO 211 and CHM 213

CS 480 Comparative Languages (Credits: 4)

Basic concepts and special-purpose facilities in programming languages examined through several representative languages. Three hours lecture, two hours lab.

Prerequisite: CS 400

CS 482 Scanning, Parsing, and Semantic Analysis (Credits: 4)

Study and use of tools for performing lexical, syntactic, and semantic analysis of computer-oriented languages.

Prerequisite: CS 466 and CS 480

CS 495 Undergraduate Thesis (Credits: 4)

Completion of a computer science research project. Writing and defending a thesis that describes the research and summarizes the results.

Prerequisite: CS 499

CS 499 Selected Topics (Credits: 1 to 5)

Selected topics in computer science. May be taken for letter grade or pass/unsatisfactory, at instructor's option.

Comparative Studies/CSE

CSE 250 Comparative Nonwestern Economic Systems (Credits: 4)

Examination of political processes and economic systems in Asia, Africa, Latin America, and the Middle East with special attention to contemporary issues. Titles vary.

Comparative Studies/CST

CST 221 Comparative Nonwestern Environments (Credits: 4)

Examination of distinctive environments of Asia and Africa through analysis of the geographic patterns of land use, population, settlements, economic activities, languages, religions, and political systems.

CST 231 Comparative Nonwestern Literature (Credits: 4)

Examination of the world views of selected non-Western peoples and their varied expressions in literature, emphasizing examples from Asia, Africa, Latin America, and the Middle East.

CST 232 Comparative Nonwestern Religions (Credits: 4)

An introduction to the academic study of some of the major non-Western religious traditions of the world, examining their historical development, fundamental doctrines and beliefs, practices, institutions, and cultural expressions.

CST 241 Comparative Nonwestern Cultures (Credits: 4)

Examines diversity from an anthropological perspective, utilizing concepts and methods of cultural anthropology. Students will use a holistic approach to analyzing non-Western cultures while gaining understanding of the distinctive research methods of cultural anthropology.

CST 242 Comparative Nonwestern Cultures: Music (Credits: 4)

Introduction to the music and cultural diversity and uniqueness of selected areas of the globe. This course includes the study of indigenous folk music and instruments of Asia, India, Africa, North America, Central and Southeast Europe.

CST 243 Comparative Nonwestern Cultures: Art (Credits: 4)

An introduction to the cultural diversity and uniqueness of selected areas of Asia, Africa, Latin America, and the Middle East as reflected in art.

CST 251 Comparative Nonwestern Social Systems (Credits: 4)

Examination of political processes and economic systems in Asia, Africa, Latin America, and the Middle East with special attention to contemporary issues. Titles vary.

Career and Technical Education/CTE

CTE 400 Pre-Service Workshop for First-Year Career and Technical Education Teachers (Credits: 8)

For beginning CTE teachers who possess occupational experience yet have limited or no formal training in an education setting. Candidates will learn teaching pedagogy and skills required for their new role as educators.

CTE 410 The Learning Environment (Credits: 4)

This course will focus on examination, discussion, application and reporting of best practices related to instructional strategies. Students will learn techniques that maximize instructional time, and reflect on the learning environment they provide. Prerequisite: CTE 400

CTE 415 Clinical Practice I for Undergraduate Student (Credits: 4)

Demonstration of proficiencies outlined in the Ohio Performance-Based Teacher Licensure Standards. For teachers that possess business/industry experience and have been hired to teach a Career and Technical Education program area. Prerequisite: CTE 400

CTE 420 Assessment and Instruction (Credits: 4)

To improve student achievement, curriculum is prioritized so that teachers may focus on the most important standards. Participants will examine research on prioritizing curriculum, and learn to create a curriculum map and monitor curriculum. Prerequisite: CTE 400

CTE 430 Prioritizing and Mapping Curriculum (Credits: 4)

To improve student achievement, curriculum is prioritized so that teachers may focus on the most important standards. Participants will examine research on prioritizing curriculum, and learn to create a curriculum map and monitor curriculum. Prerequisite: CTE 400

CTE 440 Overview of Career and Technical Education (Credits: 4)

Study of Career and Technical Education, including (but not limited to) philosophy of CTE; federal legislation; legal issues; special needs, professional and student organizations; current issues in CTE.

Prerequisite: CTE 400

CTE 450 Communication Techniques in CTE (Credits: 4)

Communicating in today's fast-paced, competitive workforce requires understanding of effective communication principles and techniques such as computer technology, e-mail, customer service, documentation, and other contemporary workplace communication issues.

Prerequisite: CTE 400

CTE 480 Occupational Safety in CTE (Credits: 4)

Promotion of a safe learning and working environment through examination of responsibilities such as safety, liability, documentation, OSHA, MSDS, fire safety, minor labor laws, accident prevention, ergonomics and movement, sexual harassment and gender equity.

CTE 481 Understanding and Teaching At-Risk Students (Credits: 4)

When working with students with exceptionalities, there are distinctions in interests, abilities and temperament. These distinctions have implications for teaching and learning so that CTE teachers must rethink how they prepare the educational environment.

Dance/DAN

DAN 101 Ballet I (Credits: 3)

Introduction to vocabulary, techniques, and theories of ballet. Emphasis on body alignment and effective methods for gaining strength and flexibility necessary for proper ballet training.

DAN 102 Ballet I (Credits: 3)

Introduction to vocabulary, techniques, and theories of ballet. Emphasis on body alignment and effective methods for gaining strength and flexibility necessary for proper ballet training.

DAN 103 Ballet I (Credits: 3)

Introduction to vocabulary, techniques, and theories of ballet. Emphasis on body alignment and effective methods for gaining strength and flexibility necessary for proper ballet training. Prerequisite: DAN 102

DAN 104 Beginning Ballet for Music Theatre (Credits: 2)

This beginning level of ballet is geared to the dance needs of students preparing for careers in musical theatre.

DAN 105 Beginning Ballet for Music Theatre (Credits: 2)

This beginning level of ballet is geared to the dance needs of students preparing for careers in musical theatre.

DAN 106 Beginning Ballet for Music Theatre (Credits: 2)

This beginning level of ballet is geared to the dance needs of students preparing for careers in musical theatre.

DAN 111 Fundamentals of Dance (Credits: 3)

Introduction to formalized movement: analysis and practice of action in time and space, use of dynamics, body toning, alignment, flexibility, strength, and coordination.

DAN 112 Fundamentals of Dance (Credits: 3)

Introduction to formalized movement: analysis and practice of action in time and space, use of dynamics, body toning, alignment, flexibility, strength, and coordination.

DAN 113 Modern Dance I: Fundamentals of Dance (Credits: 3)

Introduction to formalized movement: analysis and practice of action in time and space, use of dynamics, body toning, alignment, flexibility, strength, and coordination.
Prerequisite: DAN 112

DAN 121 Beginning Jazz Musical Theatre (Credits: 1)

Emphasis on various traditional and contemporary jazz techniques and styles within the realm of musical theatre.

DAN 122 Beginning Jazz Musical Theatre (Credits: 1)

Emphasis on various traditional and contemporary jazz techniques and styles within the realm of musical theatre.

DAN 123 Beginning Jazz for Musical Theater (Credits: 1)

Emphasis on various traditional and contemporary jazz techniques and styles within the realm of musical theatre.

DAN 131 Intermediate Jazz I (Credits: 2)

First-year intermediate work in jazz dance technique. Emphasis is on technical proficiency and versatility through staccato and lyrical movements. Focus on musicality and individual artistry. Prerequisite: DAN 111 or permission of department.

Prerequisite: DAN 111

DAN 132 Intermediate Jazz I (Credits: 2)

First-year intermediate work in jazz dance technique. Emphasis is on technical proficiency and versatility through staccato and lyrical movements. Focus on musicality and individual artistry. Prerequisite: DAN 131 or permission of department.

Prerequisite: DAN 131

DAN 133 Intermediate Jazz I (Credits: 2)

First-year intermediate work in jazz dance technique. Emphasis is on technical proficiency and versatility through staccato and lyrical movements. Focus on musicality and individual artistry.

Prerequisite: DAN 132

DAN 201 Ballet II (Credits: 3)

Development of the vocabulary, techniques, and theory of ballet. Emphasis on body alignment and flexibility. Prerequisite: DAN 103.

Prerequisite: DAN 103

DAN 202 Ballet II (Credits: 3)

Development of the vocabulary, techniques, and theory of ballet. Emphasis on body alignment and flexibility. Prerequisite: DAN 201.

Prerequisite: DAN 201

DAN 203 Ballet II (Credits: 3)

Development of the vocabulary, techniques, and theory of ballet. Emphasis on body alignment and flexibility.

Prerequisite: DAN 202

DAN 207 Beginning Tap Dance (Credits: 1)

Beginning level of tap dance introduces students with no previous experience to the fundamental movements and rhythmic structures of the form.

DAN 208 Beginning Tap Dance (Credits: 1)

Beginning level of tap dance introduces students with no previous experience to the fundamental movements and rhythmic structures of the form.

DAN 209 Beginning Tap Dance (Credits: 1)

Beginning level of tap dance introduces students with no previous experience to the fundamental movements and rhythmic structures of the form.

DAN 211 Modern Dance II (Credits: 3)

Fundamentals of modern dance: emphasis on skeletal alignment, breathing, relaxation, and the use of dynamics and rhythm in space.

DAN 212 Modern Dance II (Credits: 3)

Fundamentals of modern dance: emphasis on skeletal alignment, breathing, relaxation, and the use of dynamics and rhythm in space.

DAN 213 Modern Dance II (Credits: 3)

Fundamentals of modern dance: emphasis on skeletal alignment, breathing, relaxation, and the use of dynamics and rhythm in space.

DAN 214 Modern Dance for Actors (Credits: 2)

Fundamentals of modern dance. Emphasis on skeletal alignment, breathing, relaxation, and the use of dynamics and rhythm in space. Prerequisite: DAN 113

DAN 215 Modern Dance for Actors (Credits: 2)

Fundamentals of modern dance. Emphasis on skeletal alignment, breathing, relaxation, and the use of dynamics and rhythm in space. Prerequisite: DAN 214

DAN 216 Modern Dance for Actors (Credits: 2)

Fundamentals of modern dance. Emphasis on skeletal alignment, breathing, relaxation, and the use of dynamics and rhythm in space. Prerequisite: DAN 215

DAN 231 Intermediate Jazz II (Credits: 2)

Second-year intermediate work in jazz dance technique. Emphasis on varied allegro and adagio jazz movements. Focus will be on technical diversity, musicality, artistry, and performance. Prerequisite: DAN 133

DAN 232 Intermediate Jazz II (Credits: 2)

Second-year intermediate work in jazz dance technique. Emphasis on varied allegro and adagio jazz movements. Focus will be on technical diversity, musicality, artistry, and performance. Prerequisite: DAN 231.

DAN 233 Intermediate Jazz II (Credits: 2)

Second-year intermediate work in jazz dance technique. Emphasis on varied allegro and adagio jazz movements. Focus will be on technical diversity, musicality, artistry, and performance. Prerequisite: DAN 232.

DAN 251 Dance History (Credits: 1)

Survey of Western theatrical dance from its roots in early cultures to the twentieth century. Prerequisite: DAN 113

DAN 252 Dance History (Credits: 1)

Survey of Western theatrical dance from its roots in early cultures to the twentieth century. Prerequisite: DAN 251

DAN 253 Dance History (Credits: 1)

Survey of Western theatrical dance from its roots in early cultures to the twentieth century. Prerequisite: DAN 252

DAN 301 Ballet III (Credits: 3)

Development of the vocabulary, techniques, and theory of ballet. Emphasis on body alignment and flexibility. Prerequisite: DAN 203

DAN 302 Ballet III (Credits: 3)

Development of the vocabulary, techniques, and theory of ballet. Emphasis on body alignment and flexibility. Prerequisite: DAN 301

DAN 303 Ballet III (Credits: 3)

Development of the vocabulary, techniques, and theory of ballet. Emphasis on body alignment and flexibility. Prerequisite: DAN 302

DAN 304 Intermediate Ballet for the Musical Theatre (Credits: 2)

Intermediate level of ballet is geared to the dance needs of students preparing for careers in musical theatre. Emphasis on strong technique which can be applied to theatre dance needs.

DAN 305 Intermediate Ballet for the Musical Theatre (Credits: 2)

Intermediate level of ballet is geared to the dance needs of students preparing for careers in musical theatre. Emphasis on strong technique which can be applied to theatre dance needs.

DAN 306 Intermediate Ballet for the Musical Theatre (Credits: 2)

Intermediate level of ballet is geared to the dance needs of students preparing for careers in musical theatre. Emphasis on strong technique which can be applied to theatre dance needs.

DAN 307 Intermediate Tap Dance (Credits: 1)

Intermediate level tap dance develops a more complex understanding of rhythmic structures in traditional and contemporary approaches to tap technique and choreography.

DAN 308 Intermediate Tap Dance (Credits: 1)

Intermediate level tap dance develops a more complex understanding of rhythmic structures in traditional and contemporary approaches to tap technique and choreography.

DAN 309 Intermediate Tap Dance (Credits: 1)

Intermediate level tap dance develops a more complex understanding of rhythmic structures in traditional and contemporary approaches to tap technique and choreography.

DAN 311 Modern Dance III (Credits: 3)

Further study of modern dance techniques and styles. Material is on the intermediate to advanced level. Prerequisite: DAN 213

DAN 312 Modern Dance III (Credits: 3)

Further study of modern dance techniques and styles. Material is on the intermediate to advanced level. Prerequisite: DAN 311

DAN 313 Modern Dance III (Credits: 3)

Further study of modern dance techniques and styles. Material is on the intermediate to advanced level. Prerequisite: DAN 312

DAN 321 Jazz/Theatre Dance I (Credits: 2)

Diversified styles and techniques of contemporary musical theatre dancing. Emphasis is on movement proficiency and versatility within the realm of jazz and theatre dance. Prerequisite: DAN 213

DAN 322 Jazz/Theatre Dance I (Credits: 2)

Diversified styles and techniques of contemporary musical theatre dancing. Emphasis is on movement proficiency and versatility within the realm of jazz and theatre dance. Prerequisite: DAN 321

DAN 323 Jazz/Theatre Dance I (Credits: 2)

Diversified styles and techniques of contemporary musical theatre dancing. Emphasis is on movement proficiency and versatility within the realm of jazz and theatre dance. Prerequisite: DAN 322

DAN 331 Musical Theatre Dance Styles (Credits: 3)

Diversified styles and techniques of contemporary musical theatre dancing. Emphasis is on movement proficiency and versatility within the realm of jazz and theatre dance.

DAN 332 Musical Theatre Dance Styles (Credits: 3)

Diversified styles and techniques of contemporary musical theatre dancing. Emphasis is on movement proficiency and versatility within the realm of jazz and theatre dance.

DAN 333 Musical Theatre Dance Styles (Credits: 3)

Diversified styles and techniques of contemporary musical theatre dancing. Emphasis is on movement proficiency and versatility within the realm of jazz and theatre dance.

DAN 341 Improvisation (Credits: 1)

Exploration of improvisation techniques as a compositional tool. For dance majors only. Prerequisite: DAN 213.

DAN 342 Choreography (Credits: 1)

Exploration of compositional techniques culminating in the creation of solos and ensemble works. For dance majors only. Prerequisite: DAN 341.

DAN 343 Choreography (Credits: 1)

Exploration of compositional techniques culminating in the creation of solos and ensemble works. For dance majors only. Prerequisite: DAN 342

DAN 371 Dance Pedagogy (Credits: 1)

Methods for teaching dance using an anatomical approach as the basis for good training in all techniques. For dance majors only. Prerequisite: DAN 252.

DAN 372 Dance Pedagogy (Credits: 1)

Methods for teaching dance using an anatomical approach as the basis for good training in all techniques. For dance majors only. Prerequisite: DAN 371.

DAN 373 Dance Pedagogy (Credits: 1)

Methods for teaching dance using an anatomical approach as the basis for good training in all techniques. For dance majors only. Prerequisite: DAN 372.

DAN 399 Studies in Selected Subjects (Credits: 1 to 4)

Problems, approaches, and topics in the field of dance. Topics vary.

DAN 401 Ballet IV (Credits: 3)

Advanced work in classical ballet technique stressing the development of musicality and virtuosity. Pointe work is included. Prerequisite: DAN 303 or departmental approval.

DAN 402 Ballet IV (Credits: 3)

Advanced work in classical ballet technique stressing the development of musicality and virtuosity. Pointe work is included. Prerequisite: DAN 401; or departmental approval.

DAN 403 Ballet IV (Credits: 3)

Advanced work in classical ballet technique stressing the development of musicality and virtuosity. Pointe work is included. Prerequisite: DAN 402

DAN 407 Advanced Tap Dance (Credits: 1)

Advanced level of tap dance emphasizes mastery of complex rhythms, articulation and technical skills in traditional and contemporary approaches to tap dance technique, choreography and Broadway Tap vocabulary.

DAN 408 Advanced Tap Dance (Credits: 1)

Advanced level of tap dance emphasizes mastery of more complex rhythms, articulation, and technical skills in traditional and contemporary approaches to tap dance technique, choreography and Jazz Tap vocabulary.

DAN 409 Advanced Tap Dance (Credits: 1)

Advanced level of tap dance emphasizes mastery of more complex rhythms, articulation and technical skills in traditional and contemporary approaches to tap dance technique and complex choreography in a Musical Theatre setting.

DAN 411 Modern Dance IV (Credits: 3)

Advanced work in modern dance techniques and styles. Prerequisite: DAN 313.

DAN 412 Modern Dance IV (Credits: 3)

Advanced work in modern dance techniques and styles. Prerequisite: DAN 411.

DAN 413 Modern Dance IV (Credits: 3)

Advanced work in modern dance techniques and styles. Prerequisite: DAN 412.

DAN 421 Jazz/Theatre Dance II (Credits: 2)

Diversified styles and techniques of contemporary musical theatre dancing including jazz adagio and allegro combinations, focusing on technique, musicality, style, and performance. Prerequisite: DAN 323.

DAN 422 Jazz/Dance Theatre II (Credits: 2)

Diversified styles and techniques of contemporary musical theatre dancing including jazz adagio and allegro combinations, focusing on technique, musicality, style, and performance. Prerequisite: DAN 421.

DAN 423 Jazz/Theatre Dance II (Credits: 2)

Diversified styles and techniques of contemporary musical theatre dancing including jazz adagio and allegro combinations, focusing on technique, musicality, style, and performance.

Prerequisite: DAN 422.

DAN 431 Pointe Class (Credits: 1)

Emphasizes pointe work for the female dancer, to develop strength on pointe for classical ballet.

Prerequisite: DAN 203.

DAN 432 Men's Ballet Class (Credits: 1)

Specific movements and exercises geared to the male dancer, to develop strength and virtuosity.

Prerequisite: DAN 203.

DAN 433 Pas de Deux Class (Credits: 1)

Trains male and female dancers in the art of partnering, an essential part of all dance.

Prerequisite: DAN 203.

DAN 491 Senior Dance Project (Credits: 1)

Advanced work for dance majors in creative projects and/or dance research.

Prerequisite: DAN 343; or departmental approval.

DAN 492 Senior Dance Project (Credits: 1)

Advanced work for dance majors in creative projects and/or dance research.

Prerequisite: DAN 491; or departmental approval.

DAN 493 Senior Dance Project (Credits: 1)

Advanced work for dance majors in creative projects and/or dance research.

Prerequisite: DAN 492

Computer-Aided Drafting and Design Technology/DDT

DDT 144 Blueprint Reading (Credits: 4)

Blueprint reading for mechanical, architectural, electrical, and civil engineering professions. Orthographic and pictorial drawing. Various sketching exercises related to industry standards. Standard symbols and callouts. 3 hours lecture/2 hours lab.

DDT 145 CAD I (Credits: 4)

Basic concepts of engineering drawing applied to manual and computer-aided drafting. Orthographic projection to produce complete multiview drawings. Computer basics for drawing set-up, construction, and file management. Two hours lecture, four hours lab.

Prerequisite: DDT 144

DDT 146 CAD II (Credits: 4)

TEG 145 continuation. Orthographic projection techniques are expanded to include sectional, auxiliary, and pictorial views. CAD concepts expanded to dimension styles, blocks, x-refs, paper and model space, UCS, and other topics. Two hours lecture, four hours lab.

Prerequisite: DDT 145

DDT 147 CAD III (Credits: 4)

Design concepts applied to specific topics: threads, cams, weld representations, geometric dimensioning and tolerancing, developments, and descriptive geometry. Student will produce assembly, detail, and pictorial drawings. Two hours lecture, four hours lab.

Prerequisite: DDT 146

DDT 148 Circuit Drafting/CAD (Credits: 4)

Schematic and electrical drafting using Auto CAD software. Stresses use of electrical and electronic symbols, ladder diagrams, schematic wiring diagrams and printed circuit layouts. Three hours lecture, two hours lab.

Prerequisite: DDT 145

DDT 149 Civil Drafting (Credits: 4)

Drafting principles for land, road and bridges. Emphasizes latest software for planning and development. Lecture and demonstration combined with various projects. Covers economic, environmental and ergonomic issues and standard design procedures. Two hours lecture/four hours lab.

DDT 170 Architectural Drawing I (Credits: 4)

Beginning architectural design for residential drawings. Floor plans, elevations, doors and windows, stairs and rails, current building codes, pictorial representation. All drawing done with Architectural Desktop Software. Two hours lecture/four hours lab.

Prerequisite: DDT 145

DDT 171 Architectural Drawing II (Credits: 4)

Advanced architectural drawing emphasizing residential and commercial construction. Continuation of CAD concepts from DDT 170. Special projects include advanced pictorial representation and virtual walkthrough of design. Two hours lecture/four hours lab.

DDT 204 Machine Design (Credits: 4)

Three-dimensional design with solid modeling. Creation of primitives, complex solids, solid model editing, two-dimensional extraction and extrusion. Production of both engineering and pictorial drawings. Engineering aspects of solid model design. Two hours lecture, four hours lab.

Prerequisite: DDT 146

Developmental Education/DEV

DEV 71 Reading Improvement I (Credits: 5)

To help severely under prepared students acquire the skills and confidence necessary to reduce the passive chore aspects of reading in order to stimulate an enthusiasm for learning in general. Graded pass/unsatisfactory.

DEV 72 Basic Writing Skills I (Credits: 6)

Provides intensive instruction for students whose writing skills are significantly below those necessary for success in university-level writing requirements. Graded pass/unsatisfactory.

DEV 73 Basic Mathematics I (Credits: 5)

Provides instruction in basic mathematical concepts and computations necessary for students to successfully perform mathematical functions that occur in daily life and to complete the Level II course, DEV 083. Graded pass/unsatisfactory.

DEV 81 Reading Improvement II (Credits: 5)

To help students acquire skills necessary to comprehend a tenth grade textbook; to find the main idea, recognize sentence patterns, deduce meaning of words, and to complete an outside reading assignment. Graded pass/unsatisfactory. (Previously listed SS 081.)

DEV 82 Basic Writing Skills II (Credits: 6)

To provide learning activities enabling students to brainstorm for ideas; develop and organize their writing; revise; edit for grammar, sentence structure, and mechanics; and prepare standard, acceptable final drafts of their writing. Graded pass/unsatisfactory.

DEV 83 Basic Mathematics II (Credits: 5)

Reinforces basic mathematical concepts and computations. Provides instruction in pre-algebra and elementary algebra skills and concepts necessary for students to successfully complete elementary algebra. Graded pass/unsatisfactory.

DEV 91 Reading Improvement III (Credits: 3)

Reading and study skills essential for college, emphasizing comprehension, vocabulary, textbook organization, marking, note-taking techniques, and rate improvement. Graded pass/unsatisfactory.

DEV 92 Fundamental English Skills (Credits: 4)

Prepares students for success in English 101 by giving them instruction and activities in the fundamentals of the writing process. Graded pass/unsatisfactory.

DEV 93 Basic Mathematic Skills III (Credits: 3)

Available to students who need help in arithmetic functions. Topics include properties of whole numbers, primes and composites, arithmetic operations, decimals, ratios, rates, proportions, percents, and elementary algebra functions. Graded pass/unsatisfactory.

DEV 95 Elementary Algebra (Credits: 3)

Beginning Algebra including: numbers, order of operations, arithmetic laws, evaluation, signed variables, polynomials, factoring, linear equations, isolating variables, lines, systems of linear equations and word problems.

Prerequisite: DEV 083 or DEV 093 or WSU Math Level 2 0 or WSU Math Level 3 0 or WSU Math Level 4 0 or WSU Math Level 4T 0 or WSU Math Level 5 0 or WSU Math Level 6 0 or WSU Math Level 7 0 or WSU Math Level 8 0

Danish/DN

DN 111 Essentials of Danish (Credits: 4)

Introduction to Danish with an emphasis on speaking the language.

Economics/EC

EC 200 Economic Life (Credits: 4)

Introduction to basic economic concepts such as resource allocation, costs, supply, demand, and public goods. Topics include American capitalism, market failures, unemployment, inflation, and taxation. The sequence EC 204 and EC 205 may be substituted. Credit will not be given for EC 200 Economic Life for students who have already successfully completed EC 204 and EC 205.

EC 204 Principles of Microeconomics (Credits: 4)

Fundamental economic principles as an aid in understanding modern society. Introduction to Microeconomics.

EC 205 Principles of Macroeconomics (Credits: 4)

Fundamental economic principles as an aid in understanding modern society. Introduction to Macroeconomics.

EC 290 Economic, Business and Social Issues (Credits: 4)

Analyzes controversy and diversity of opinions regarding economic, business, and social issues shaping the world in which we live. Fosters critical thinking, verbal, and written communication skills through discussion, debate, and writing.

EC 301 Money and Banking (Credits: 4)

Analysis of behavior and significance of money, credit, debt, and the banking system. Prerequisite: EC 204 and EC 205

EC 310 The Global Economy (Credits: 4)

Explores how the global economic environment affects business decisions and how these decisions affect the economy of host and source countries. Analyzes the impact of international trade, foreign direct investment, and global monetary systems. Prerequisite: EC 204 and EC 205

252 Course Descriptions

EC 315 Intermediate Microeconomics (Credits: 4)

Develops the analytical tools of microeconomics, stressing market behavior of firms, industries, and consumers. Examines the production process and the operation of market mechanisms. Policy implications are emphasized.

Prerequisite: EC 204 and EC 205 and MTH 228

EC 317 Intermediate Macroeconomics (Credits: 4)

Analysis of national economic problems including inflation, unemployment, interest rates, and economic stability. Emphasizes the impact of public policy. This is a writing-intensive course.

Prerequisite: EC 204 and EC 205 and MTH 228

EC 319 Institutional Economics (Credits: 4)

Focuses on interrelationships between market and non-market forces, exploring contemporary social, technological, political, and other influences on resource allocation decisions and on economic change. This is a writing-intensive course.

Prerequisite: EC 204 and EC 205

EC 321 U.S. Economic History (Credits: 4)

Analysis of economic, political, social, and cultural changes resulting from industrial advancements and the control over industrial changes exercised by different societies.

Prerequisite: EC 204 and EC 205

EC 326 Economics of Poverty and Discrimination (Credits: 4)

Analysis of economic causes, effects, and cures for poverty and discrimination. Study of trends, economic explanations, and current programs and legislation.

Prerequisite: EC 200 or EC 204 and EC 205

EC 330 Urban Economic Problems and Prospects (Credits: 4)

Analysis of economic processes that influence urban economic conditions, population movements, economic problems facing metropolitan areas, and alternative problem-solving techniques.

Prerequisite: EC 200 or EC 204 and EC 205

EC 351 Labor Markets (Credits: 4)

A study of labor market behavior and wage determination, addressing the impact of new technologies, global competition, and deindustrialization on American labor markets.

Prerequisite: EC 204 and EC 205

EC 352 Labor History and Legislation (Credits: 4)

History of the American labor movement from the early national period to the present, including labor legislation, public policy, and current labor issues.

Prerequisite: EC 204 and EC 205

EC 370 Environmental Economics (Credits: 4)

Analysis of environmental quality from both microeconomic and systems frameworks.

Emphasis on effectiveness of alternative approaches to environmental problems, including specific solutions to particular problems and general approaches to broad problems.

Prerequisite: EC 204 and EC 205

EC 401 Managerial Economics (Credits: 4)

Application of economic analysis to management decision making. Practical methods and problems are stressed.

Prerequisite: EC 204 and EC 205

EC 402 Monetary Economics (Credits: 4)

Analysis of monetary policy development and the theory of money market behavior. Emphasizes the relationship between money and national economic conditions.

Prerequisite: EC 204 and EC 205 and EC 301

EC 409 Applied Econometrics (Credits: 4)

Application of statistics and economic theory to measurement, forecasting, and other economic problems.

Prerequisite: EC 204 and EC 205 and MS 205 and MTH 228

EC 410 Mathematical Methods for Economics (Credits: 4)

Application of mathematical tools in the formulation of economic theory. Methods used in model construction. Completion of a college algebra course required.

Prerequisite: EC 204 and EC 205

EC 412 Forecasting Economic Activities (Credits: 4)

Techniques and theories used in forecasting.

Practical methods and problems are stressed.

Prerequisite: EC 204 and EC 205 and MS 205 and MTH 228

EC 419 International Economics (Credits: 4)

This course covers basic trade theories, commercial policy, and theories of international investment and migration, exchange rate determination and open macroeconomics. Special attention is paid to international economic institutions and current financial crises.

Prerequisite: EC 204 and EC 205

EC 420 Law and Economics (Credits: 4)

Economic analysis of the law and legal institutions.

Prerequisite: EC 200 or EC 204 and EC 205

EC 425 Development of Economic Thought (Credits: 4)

Historical development of economic thought and philosophies.

Prerequisite: EC 204 and EC 205

EC 431 Public Finance (Credits: 4)

Develops a theoretical framework and working knowledge of the economic basis for government activity, government expenditures, programs, and policies, and the financing of government expenditures through taxation.

Prerequisite: EC 204 and EC 205

EC 435 Comparative Capitalist Institutions (Credits: 4)

Comparison of institutions of various capitalist and socialist economies including economies in transition. Comparative analysis provides a basis for evaluating government policy.

Prerequisite: EC 204 and EC 205

EC 436 Industrial Organization (Credits: 4)

Analysis of business behavior under various industry structures and government policies. Emphasis on actual case studies.

Prerequisite: EC 204 and EC 205

EC 440 Regional Economic Growth and Change (Credits: 4)

Regional economic analysis in a policy and planning context. Interdisciplinary approach to analyze the economics of location, inter-regional trade, regional development, urban regions, and growth strategies.

Prerequisite: EC 204 and EC 205

EC 441 International Trade Theory and Policy (Credits: 4)

Economic reasons for international trade.

Impact of trade and its restrictions on economic aggregates.

Prerequisite: EC 204 and EC 205

EC 442 Open Economy Macro (Credits: 4)

Studies international monetary relations and problems. Focuses on institutions and arrangements used to finance international trade. Topics include balance of payments, the dollar and foreign exchange markets, Euro currencies, petrodollars and OPEC, and multinational corporations.

Prerequisite: EC 204 and EC 205

EC 444 Problems of Economics Development and Transition (Credits: 4)

Explores theories of economic development and underdevelopment and their relationship to poverty. Develops strategies for reducing world poverty from different perspectives.

Prerequisite: EC 204 and EC 205

EC 445 Political Economy of Women (Credits: 4)

Examines the changing role of women in the American economy from colonial times to the present, from a multicultural perspective. The combined effects of race, class, ethnicity, gender ideology, technology, education, unionism, legislation, etc., on women's evolving labor market status are investigated. Junior or senior standing required.

Prerequisite: EC 204 and EC 205 or EC 200

EC 450 Economics of Information Technology (Credits: 4)

Study of information technology as an economic resource. Assessment of the economic impacts of information innovation. Applications to network economics, Internet pricing, industrial structure, electronic commerce, and globalization of markets.

Prerequisite: EC 204 and EC 205

EC 460 The Economics of Sports (Credits: 4)

Applications of economic principles to professional and intercollegiate sports.

Prerequisite: EC 204 and EC 205

EC 477 Economic Studies (Credits: 4)

Examination of special economic issues.

Prerequisite: EC 204 and EC 205

EC 478 Honors: Independent Study in Economics (Credits: 2 to 8)

Research in economics for fulfillment of the Honors program project requirement.

Prerequisite: EC 204 and EC 205

EC 480 Economic Issues (Credits: 4)

Examination of selected economic issues with a view to integrating the discipline. Topics vary. For economics majors or permission of instructor.

EC 481 Independent Reading (Credits: 1 to 4)

Limited to students with extensive backgrounds in economics or allied disciplines and with special reasons for in-depth study in a particular area.

EC 482 Independent Reading (Credits: 1 to 4)

Limited to students with extensive backgrounds in economics or allied disciplines and with special reasons for in-depth study in a particular area.

EC 483 Independent Reading (Credits: 1 to 4)

Limited to students with extensive backgrounds in economics or allied disciplines and with special reasons for in-depth study in a particular area.

Economic Education/ECO

ECO 391 Economic Studies (Credits: 1 to 4)

Selected economic education issues and topics and techniques for teaching them in the K-12 classroom.

Education/ED

ED 101 Interpersonal Process Learning Laboratory (Credits: 1 to 2)

Explores such areas as listening, communicating, life planning, sexuality, and the helping relationship with emphasis on interpersonal process.

ED 210 Education in a Democracy (Credits: 4)

This course explores the role and relationship of education in a democracy to concepts of civil society; social justice, access to knowledge, and development of democratic character in the young.

ED 221 Practicum Experience I (Credits: 1)

Field practicum introduces students to the educational process through participation in a classroom and through an examination of dynamics of the classroom and its setting.

ED 223 Practicum Experience II (Credits: 1)

Field practicum introduces students to the educational process through participation in a classroom and through an examination of dynamics of the classroom and its setting.

ED 301 Schooling in a Pluralistic Society: (Credits: 5)

Designed to provide professional educators an orientation to the teaching profession and pluralistic American society as well as an awareness of the total global community.

ED 303 Introduction to Educational Psychology: (Credits: 5)

Cognitive, affective, and psychomotor domains of learning, basic principles and stages of child and adolescent development, and special topics within the social contexts education. The role of research in supporting educational practice.

Prerequisite: ED 223 and ED 301 and ED 333

ED 311 Early Childhood Science: Curriculum and Materials (Credits: 4)

Philosophy, curriculum, and materials for teaching early childhood school science; emphasis on planning and implementation, evaluation, resources and facilities, and current and historical curricular trends in early childhood school science. Field/clinical experience required. Successful completion of all Phase II, quarter 1 in the ECE program necessary for enrollment.

Prerequisite: MTH 243 and SM 145

ED 316 Early Childhood Language Arts: Curriculum and Materials (Credits: 3 to 4.5)

Study of emerging literacy in early childhood methods and materials to facilitate oral and written communication. Integration of language art across K–3 grade curricula. Modifications and intervention to meet individual needs.

ED 317 Early Childhood Reading: Curriculum and Materials (Credits: 3 to 4.5)

Resources and procedures for pre-reading, reading readiness, and formal reading instruction. Integration of reading/language arts across the K–3 grade curricula. Modifications and interventions to meet individual needs.

ED 321 Practicum Experience III (Credits: 1)

Third field/clinical practicum where students implement teaching strategies introduced in the Phase II methods components. Involvement with human service agencies and families occurs.

ED 323 Practicum Experience IV (Credits: 1)

Fourth field/clinical practicum where students implement teaching strategies introduced in the Phase II methods components. Involvement with human service agencies and families occurs.

ED 327 Teaching Skills (Credits: 3)

Introduces students to the basic skills of lesson planning and presentation. Students use motivational techniques, questioning skills, alternative teaching strategies, and varied advanced technologies, to design/deliver instructional plans.

Prerequisite: EDT 280

ED 370 Independent Reading and Minor Problems (Credits: 1 to 9)

Planned reading and/or project under the guidance of a faculty member of the College of Education and Human Services.

ED 400 Education Honors Research (Credits: 1 to 9)

In-depth independent study under the guidance of a faculty advisor.

ED 407 Instruction in Word Study: Phonics (Credits: 4.5)

This course is an in-depth analysis of how people learn printed words related to instructional procedures in schools. Students will apply knowledge in a tutoring situation.

ED 411 Early Childhood Mathematics: Philosophy, Curriculum and Materials (Credits: 4)

Curriculum and materials for teaching mathematics to K–3 grade children based on NCTM Standards and Ohio's Competency Mathematics Model. Integration of mathematics across the curriculum. Modifications and interventions to meet individual needs.

Prerequisite: MTH 143 and MTH 243 and MTH 244 and SM 145

ED 415 Planning the Reading Program (Credits: 4.5)

Developing a classroom reading program based on an understanding of the reading process, goals, assessment strategies, materials, and instructional strategies. Includes strategies for supporting students with volunteer and/or paraprofessional personnel.

Prerequisite: ED 315 and ED 316 and ED 317 and ED 407

ED 417 Early Childhood Social Studies: Curriculum and Materials (Credits: 4)

Objectives, principles, and trends of social studies in Early Childhood Education with a focus on integrating technology into social studies. Field experience required.

Prerequisite: ED 317 and EDE 318 and EDE 321

ED 419 Supervised Teaching: Elementary (Credits: 4 to 14)

Student teachers, assigned to a public school full time, work under direct supervision of an experienced classroom teacher. In the fall, student teaching begins in late August to early September with the opening of the public school and continues for approximately 14 weeks to the end of fall quarter. During winter quarter, the period of student teaching corresponds with the academic quarter dates. During spring quarter, student teaching begins on the Monday of the university's spring break and continues to the end of the quarter with time off according to the public school's calendar for its spring break. Students may receive 12 credit hours for student teaching in the fall and 10 credit hours for winter and spring quarters. There is no student teaching during the summer. Formal application must be made through the Office of the Director of Laboratory Experiences according to the following schedule: for fall quarter, apply first two weeks of preceding March; for winter quarter, apply last two weeks of preceding September; and for spring quarter, apply last two weeks of preceding November. Concurrent enrollment in ED 440 and permission of Director of Laboratory Experiences required. Student teaching and ED 440 constitute a full load for the quarter. No other course work may be taken.

ED 421 Literature for Middle Childhood (Credits: 3)

Knowledge of a wide range of literature for middle childhood including the selection criteria and the rationale for classroom practices with children's literature.

Prerequisite: ENG 101 and ENG 102 and COM 103

ED 429 Supervised Teaching: Multi-Age (Credits: 4 to 15)

Supervised full-time student teaching in a pre-K-12, multi-age school setting.

ED 432 Improving Reading in the Secondary School (Credits: 5)

Techniques of diagnosing and correcting reading problems of secondary students. Explores secondary reading problems with emphasis on skill development.

Prerequisite: ED 214 and ED 216 and ED 218 and ED 220 and ED 327

ED 440 The Teacher in School and Society (Credits: 1 to 4)

An exit seminar preparing the student to enter the profession via consideration of societal issues affecting education and personal readiness through individual development of a product portfolio.

Prerequisite: ED 419 or ED 429

ED 458 Practicum in Education (Credits: 1 to 9)

Supervised teaching experience for students who have completed student teaching (or its equivalent) and are seeking certification in another field.

Topics vary.

ED 460 Practicum in English Education (Credits: 1 to 4)

Students are assigned to an instructional class that focuses on the teaching of English to speakers of other languages (TESOL) for a supervised practicum experience. Graded pass/unsatisfactory.

Prerequisite: ED 420

ED 470 Curriculum and Instruction Workshop (Credits: 1 to 6)

Intensive study of a selected area of the school curriculum to meet the particular needs of the participating pre-service and in-service teachers, administrators, and curriculum supervisors. Topics vary.

Education—Early Childhood Education/EDE

EDE 200 Entrance Seminar in Early Childhood Education (Credits: 1)

Seminar introducing students to the Early Childhood Education Licensure Program and the knowledge, skills and dispositions required as a pre-professional intern in Early Childhood Education.

Prerequisite: EDE 230

EDE 221 Practicum Experience I: ECE (Credits: 1)

Placement in which candidates observe and participate in developmentally appropriate programming for 3-5 year old children, focusing on growth and development.

Prerequisite: EDE 230

EDE 223 Practicum Experience II: ECE (Credits: 1)

Placement in which candidates observe and participate in dynamics of an early childhood classroom with focus on various aspects of literacy development.

EDE 225 Practicum Experience III: ECE (Credits: 1)

Placement in which candidates observe and participate in dynamics of an early childhood classroom with focus on classroom management, assessment and literacy.

EDE 227 Early Start in ECE Internship (Credits: 1)

Placement in which student assist cooperating teachers in preparation for and operation of the initial weeks of school as part of the year long internship.

EDE 301 Human Growth and Development: Pre-Natal Through Early Childhood (Credits: 4)

This course addresses the philosophies of physical, cognitive, linguistic, social and emotional typical and atypical development of children prenatal through age eight.

Prerequisite: EDE 230

EDE 302 Managing Young Children's Behavior in the EC Setting (Credits: 4)

The study of classroom behavior management within the framework of child development, developmentally appropriate practices, and constructivist education including pro-active planning and organization and appropriate expectations for young children.

Prerequisite: EDE 231 and EDE 303 and EDE 307 and EDE 225

EDE 304 Best Principles and Practices in Early Childhood Education (Credits: 4)

Culturally responsive, developmentally and age appropriate practices based on a framework of theoretical research, currently early childhood pedagogy (birth-age 8) and alignment to state and nationally early childhood guidelines.

Prerequisite: EDE 221

EDE 305 Human Growth and Development: Pre-Natal through Early Childhood (Credits: 4)

This course addresses the physical, cognitive, language, social and emotional typical and atypical development of children prenatal through age eight. Field experience required.

Prerequisite: EDE 221

EDE 315 Young Children with Special Needs (Credits: 4)

Course examines causes, effects and characteristics of various disabilities. The focus is on families, professionals, early intervention/early childhood special education programs, and agencies working collaboratively with children with disabilities birth to eight years old.

Prerequisite: EDE 230 and EDE 221

EDE 318 Meeting the Individual Needs of Young Children (Credits: 4)

Course examines making curricular adaptations/modifications and various teaching strategies to meet individual needs of children birth through eight. Focus is on developing/implementing IEPs/IFSPs, understanding differences in learning, and assistive/adaptive equipment.

EDE 321 Practicum Experience IV: ECE (Credits: 1)

Placement in which students design and implement strategies for individuals, and small and large groups in language arts and social studies including modification of curriculum and presentation style to provide for individual needs of children.

EDE 323 Practicum Experience V: ECE (Credits: 1)

Placement in which students design and implement strategies for individuals, small and large groups in Math, Science, and Reading including modification of curriculum and presentation of style to provide for individual needs of children.

EDE 401 The Family and Community in Early Childhood Education (Credits: 3)

The role of family behaviors and involvement in the care/education of the young child. Special emphasis on the role of community agencies in family decision-making and goal setting.

EDE 419 Student Teaching: Early Childhood Education (Credits: 10)

Students are assigned to a public or certified private facility under direct supervision of experienced teachers for a total of 10 weeks in K-3rd grades.

EDE 440 The Professional Early Childhood Educator (Credits: 3)

A capstone course that culminates the Early Childhood Licensure Program and accompanies the student teaching experience. The focus is on final preparation for entrance into the Early Childhood Profession.

EDE 464 Evaluation and Assessment in Early Childhood Education (Credits: 4)

Formal and informal techniques used for formative and summative assessment and evaluation of learning in the early childhood environment. Includes observational, naturalistic, authentic, portfolio, and standardized techniques.

Prerequisite: EDE 231 and EDE 303 and EDE 307 and EDE 316 and EDE 225

EDE 470 Workshop in Early Education (Credits: 1 to 4)

Intensive practical study in a selected area of early education.

Educational Leadership/EDL

EDL 301 Professional Skills in Organizational Leadership (Credits: 4)

Within a structured, coherent framework, the course will develop necessary skills in networking, communication and presentation skills. The course includes a survey of related technology and will include internet and electronic mail communication.

EDL 302 Contemporary Issues in Leadership (Credits: 4)

This course introduces students to contemporary leadership theories, concepts and issues. Students will examine contemporary societal and organizational forces and challenges that affect modern organizations.

EDL 303 Organizational Leadership Assessment (Credits: 4)

This course is designed to provide students with the opportunity to learn appropriate methods for assessment within organizational settings. This includes both individual and organization-wide assessment.

Prerequisite: EDL 301 and EDL 302

EDL 304 Developing and Presenting Effective Training (Credits: 4)

This course presents strategies to develop and present effective training. It includes program implementation, assessment, evaluation and supervision.

Prerequisite: MGT 302 and EDL 301 and EDL 302

EDL 410 Paraprofessional Staff Training (Credits: 1 to 4)

Provides an orientation to the university for new Residence Services paraprofessionals to prepare them to be effective in their roles. Participants are exposed to the various student services available on campus as well as aspects of student development, the mission of the university, Residence Services, and New Student Orientation.

EDL 411 Student Development for Campus Life Programs (Credits: 1 to 4)

Provides overview of various student development concepts and functions within a campus setting. Topics may include: community development and leadership; multiculturalism; peer counseling; interpersonal communication; conflict mediation and resolution; developmental programming and developmental discipline.

EDL 494 Leadership Development Seminar (Credits: 4)

This course provides a capstone experience for students in the Organizational Leadership Program. It focuses on developing the individual as a leader, and prepares the student for workplace marketability and organizational change management.

Prerequisite: EDL 301 and EDL 302 and EDL 303 and EDL 304

EDL 495 Leadership in Practice: The Capstone (Credits: 4)

In this course, students will draw upon their experiences from all of their organizational leadership courses to demonstrate their competency as administrative leaders by applying and integrating classroom material to an actual administrative problem.

Prerequisite: EDL 301 and EDL 302 and EDL 303 and EDL 304

Education—Special Education/EDS**EDS 333 Learning Differences: Introduction (Credits: 4)**

An introduction to the history, laws, terminology, and best practice for the education of students with mild to moderate, moderate to intensive, or gifted educational needs. Also covered are inclusive education practices.

EDS 444 Instructional and Behavioral Management of Exceptional Individuals (Credits: 3)

Prepares special educators to meet the instructional and behavioral management demands particular to working with exceptional individuals, including those with severe behavior difficulties.

Prerequisite: ED 302 and EDS 455 and EDS 451

EDS 455 Nature and Needs of the Mildly Handicapped (Credits: 2 to 4)

Causes and effects of specific learning and language disabilities, severe behavior disorders, and mild developmental disabilities. Study of teaching strategies appropriate for these individuals.

Prerequisite: ED 220 and ED 218

EDS 459 Educational Collaboration (Credits: 3)

Techniques of collaborative consultation needed to enhance communication with exceptional individuals, parents, and educational team members.

EDS 470 Workshop in Special Education (Credits: 1 to 4)

Intensive practical study in a selected area of special education.

Educational Technology/EDT**EDT 110 The Electronic Library (Credits: 2)**

Prepares students to take advantage of the latest electronic information technology to efficiently find, evaluate, and use information resources available in electronic or traditional formats. Titles vary.

EDT 211 Basic Keyboarding and Document Formatting (Credits: 3)

Introduction to the keyboard and the development of keyboarding speed and accuracy. Basic document formatting with word processing software is practiced in the production of correspondence, reports, and tabulations.

EDT 212 Advanced Keyboarding and Desktop Publishing (Credits: 3)

Acquired skills in keyboarding, word processing, and document formatting are reinforced in the production of documents with graphics and other advanced features. Skill building activities continue to build keyboarding speed and accuracy. Two lab hours per week required.

EDT 220 Basic Word Processing Applications (Credits: 3)

Essential features of word processing software are introduced and practiced in the creating of a variety of documents for business and personal use.

Prerequisite: EDT 212

EDT 221 Intermediate Word Processing Applications (Credits: 3)

In-depth study and application of the advanced features of word processing software. Editing and composing activities emphasize critical thinking and communication skills. Two lab hours per week required.

Prerequisite: EDT 220

EDT 222 Advanced Word Processing Application/ Desktop Publishing (Credits: 3)

Principles of typography and design supplement advanced word processing functions in desktop applications that include newsletters, flyers, brochures, manuals, presentation media, and Web publishing. Two lab hours per week required.

Prerequisite: EDT 221

EDT 280 Classroom Applications of Computer-Based Technology (Credits: 4)

Instruction to the use of computer-based technology in K-12 instruction. Focus is on selecting courseware and integrating it into lessons.

EDT 370 Independent Study (Credits: 1 to 4)

Student pursues an individualized course of study under the close supervision of a faculty member. It may include extensive readings, a research project, a paper, or a production.

EDT 433 Curriculum and Materials: Accounting/ Basic Business and Marketing Education (Credits: 4)

Instructional strategies in using technology as a tool in teaching and learning. Topics include the role of state and professional guidelines in curriculum development. Completion of two-thirds of major content field required. Two hour lab per week required.

Prerequisite: ED 301 and ED 303

EDT 434 Curriculum and Materials: Office Procedures and Technology (Credits: 4)

Instructional strategies and trends in curriculum development as affected by current office technology, employer expectations, and state and professional guidelines. Field/clinical experiences required. Two hours lab per week required.

Prerequisite: EDT 433 and EDT 212

EDT 455 Television Production (Credits: 4)

Survey of television production from a single camera, remote production perspective, including use of editing equipment.

EDT 470 Workshop in Educational Technology (Credits: 1 to 6)

Intensive, practical study in a selected area of educational or applied technology. Titles vary.

Electrical Engineering/EE**EE 140 Principles of Electrical Engineering (Credits: 3)**

Provides a practical introduction to important applications, and hands-on experience with components and assembly of electrical systems. Laboratory experience is emphasized.

EE 250 Engineering Problem Solving with MATLAB (Credits: 2)

Provides engineering students an extensive hands-on experience of MATLAB. Topics include relational and logic operations, array manipulation, low-level I/O, graphics, and symbolic manipulations.

Prerequisite: MTH 229

EE 260 Digital Computer Hardware/Switching Circuits (Credits: 4)

(Also listed as CEG 260.) Topics include switching algebra and switching functions, logic design of combinational and sequential circuits using TTL, combinational logic design with MSI and LSI, busing, storage elements, and instrumentation. Three hours lecture, two hours lab.

Prerequisite: CS 142 and CS 220 and CS 240 or EGR 153

EE 301 Circuit Analysis I (Credits: 4)

Basic elements and laws, circuit analysis techniques and concepts, energy storage elements, first and second order circuits, sinusoidal steady state analysis.

Prerequisite: EGR 101 and PHY 242

EE 302 Circuit Analysis I Laboratory (Credits: 1)

Computer-assisted analysis, RLC circuits, operational amplifiers and circuits, Thevenin and Norton equivalents, maximum power transfer, and AC networks.

Prerequisite: EE 301

EE 303 Circuit Analysis II (Credits: 3)

Circuit review, alternating current concepts, computer-aided circuit analysis, two-port networks, power.

Prerequisite: EE 301 and EE 302

EE 304 Circuit Analysis II Laboratory (Credits: 1)

Application of AC concepts, computer-aided circuit analysis, two-port networks, and power theory.

Prerequisite: EE 301 and EE 302 and EE 303

EE 321 Linear Systems I (Credits: 4)

Considers systems in a broad context including linear, nonlinear; variant, invariant; and analog and discrete. Various approaches to system and signal modeling are also discussed with emphasis on the Fourier transform technique.

Prerequisite: EE 301 and EE 302

EE 322 Linear Systems II (Credits: 4)

Discrete time signals and systems, the z-transform, input/output theory, discrete Fourier transform, IIR and FIR filter design, relationships, and sampling.

Prerequisite: EE 321

EE 325 Numerical Methods for Engineering Analysis Using MATLAB (Credits: 4)

The course is a hands-on exposure to computational tools. The three contact hours of lecture define and simulate problems resulting from electrical and mechanical engineering disciplines. The one contact-hour lab consists of interactive MATLAB sessions with instructor supervision. Students will learn to analyze, solve, and interpret the results of engineering problems encountered in EE and ME senior-level courses. The primary goal of this course is to establish an understanding of the processes and limitations of machine computation, and to equip students with the competency to be productive problem solvers.

Prerequisite: MTH 253 and ME 213 and EE 301

EE 326 Random Signals and Noise (Credits: 4)

Provides a practical introduction to the concepts of random events, characterization of stochastic signals, first and second order moment descriptions of random processes, and input/output descriptions of random signals and noise in linear systems.

Prerequisite: EE 321

EE 331 Electronic Devices (Credits: 3)

Introduction to basic solid-state electronic devices. Fundamentals necessary for comprehension and further study of modern engineering electronics.

Major topics include carrier flow in semiconductors, p-n junction theory, semiconductor diodes, bipolar junction transistors, field effect transistors, biasing, and introduction to amplifiers.

Prerequisite: EE 301 and EE 302

EE 332 Electronic Devices Laboratory (Credits: 1)

Applications of diodes and transistors in analog circuits, design of bias circuits.

Prerequisite: EE 301 and EE 302

EE 345 Electromagnetics (Credits: 4)

Electrostatics and magnetics; induced electromotive force. Maxwell equations and their physical interpretation and application.

Prerequisite: EE 301 and EE 302 and MTH 232

EE 346 Transmission Lines, Waveguides, and Radiating Systems (Credits: 4)

Plane waves in free space and matter.

Transmission line equations and application of Smith chart. Wave propagation in rectangular waveguides. Introduction to radiating systems, including dipole and loop antennas. Rudimentary design of typical systems containing transmission lines, waveguides, and antennas.

Prerequisite: EE 345

EE 401 Electronic Circuits and Devices (Credits: 3)

Application of modern electronics to instrumentation and data collection. Topics include semiconductor devices, small signal and power amplifiers, operational amplifiers, power supplies, digital fundamentals, and microprocessors. For nonmajors.

Prerequisite: EE 301 and EE 302

EE 402 Electronic Circuits and Devices Laboratory (Credits: 2)

Experiments in simple circuits, diode and transistor circuits, operational amplifiers, and simple microprocessors.

Prerequisite: EE 301 and EE 302

EE 410 Introduction to Micro-Electro-Mechanical Systems (MEMS) (Credits: 4)

This course covers the history, design, and fabrication of micro-electro-mechanical systems (MEMS), and the basic operating theory of selected MEMS transducers. Typical fabrication methods covered include surface micromachining, bulk micromachining, and micromolding.

Prerequisite: EE 331 and EE 332

EE 412 Industrial Controls and Automation (Credits: 4)

For each student to gain a working knowledge of industrial controls and automation. Focus is on developing an understanding of wiring diagram creation, hardware selection, and programmable logic controller design and operation. Includes laboratory.

Prerequisite: EE 260 or CEG 260 or EE 401 and EE 402

EE 413 Control Systems I (Credits: 3)

Introductory course providing students with a general control background. Major topics include block diagrams and signal-flow graphs, electromechanical modeling including state variable representation, time response, root locus, and introduction to design.

Prerequisite: ME 213 and EE 321

EE 414 Control Systems I Laboratory (Credits: 1)

Application and testing of control systems theory with electromechanical systems.

Prerequisite: EE 413

EE 415 Control Systems II (Credits: 3)

Using Control Systems I background, this course concentrates on controller design, in both the time and frequency domains, using Nyquist, Bode, and root locus techniques.

Prerequisite: EE 413 and EE 414

EE 416 Control Systems II Laboratory (Credits: 1)

Application and testing of control systems theory with electromechanical systems.

Prerequisite: EE 413 and EE 414 and EE 415

EE 417 Digital Control Systems (Credits: 3)

Samples spectra and aliasing, analysis and design of digital control systems using root locus and transform techniques; discrete equivalents of continuous controller, quantization effects, and introduction to programmable logic controllers.

Prerequisite: EE 322 and EE 415

EE 419 Introduction to Fuzzy Logic Control (Credits: 4)

(Also listed as CEG 419.) Foundations and philosophy of fuzzy logic and applications to control theory. Relationships between classical PID control and fuzzy rule-based control.

Techniques for rule construction and adaptive fuzzy logic controllers. Case studies of fuzzy logic control applications. Three hours lecture, two hours lab.

Prerequisite: EE 413 and EE 414

EE 420 Digital Control Systems Laboratory (Credits: 1)

Sampling, temperature control, position control on a microprocessor-based system, PLC implementation, quantization, error computational delay, and frequency response.

Prerequisite: EE 415 and CEG 411 and EE 416

EE 421 Communications Theory (Credits: 4)

Analysis of communication systems using the Fourier transform and the convolution integral. Discussion of Nyquist's sampling theorem and an introduction to binary pulse code modulation (PCM). Various analog (AM, SSB, WBFM) and digital (BPSK, AK, FSK) modulation techniques are also discussed and analyzed.

Prerequisite: EE 321

EE 431 Electronic Circuits (Credits: 3)

Theory and application of basic engineering electronics developed for discrete and integrated circuits. Topics include bipolar and field effect transistor amplifier analysis and design, frequency response, and multi-stage and feedback amplifiers.

Prerequisite: EE 321 and EE 331 and EE 332

EE 432 Electronic Circuits Lab (Credits: 1)

Design of single and multiple stage amplifier circuits, feedback amplifiers, circuits to meet frequency response specifications, and output stages.

Prerequisite: EE 331 and EE 332

EE 435 Design and Implementation of Analog and Digital Filters (Credits: 4)

Filter theory and approximation. Synthesis of active-RC and switched capacitor filters.

Sensitivity analysis and design centering concepts.

Prerequisite: EE 322

EE 436 Digital signal Processing: Theory, Application and Implementation (Credits: 4)

Introduces the principles and applications of digital signal processing (DSP) from the design and implementation perspective. Topics include analog-to-digital/digital-to-analog converters and digital filters, Fourier analysis algorithms, and real-time applications, all implemented on a TMS320C30 floating point DSP chip.

Prerequisite: EE 322 and CEG 220 or CS 240

EE 437 Modern Signal Processing (Credits: 4)

Introduction to advanced digital signal processing design concepts. Focus on time and frequency domain algorithms. Methods include multirate signal processing, filter banks, time-frequency analysis, and wavelets. Examples taken from audio signal processing.

Prerequisite: EE 322

EE 440 Introduction to Nanoscience and Nanotechnology (Credits: 4)

Introduction to nanoscience and technology.

Topics include introduction to quantum mechanics, fabrication, characterization, materials, electronic properties, optical properties, magnetic properties, devices, MEMS and NEMS.

Prerequisite: PHY 240 and PHY 242 and PHY 244

EE 444 Linear Integrated Systems (Credits: 4)

Theory and applications of linear integrated circuits. Topics include ideal and real operational amplifiers, frequency response and compensation, active filters, comparators, and waveform generators. Three hours lecture, two hours lab.

Prerequisite: EE 431 and EE 432

EE 445 Electromagnetic Compatibility (Credits: 4)

Identification of possible sources of electromagnetic interference (EMI) in an electronic device or system. Fundamental EMC design principles concerning conducted and radiated emissions, reduction of susceptibility to EMI and EMI shielding.

Prerequisite: EE 345

EE 446 Microwave Circuit Design (Credits: 4)

Review of Smith chart, introduction to microstrip lines, impedance matching, power gain equations, stability considerations, and design methods for amplifiers and oscillators. CAD is used.

Prerequisite: EE 346

EE 447 Antenna Theory and Design (Credits: 4)

Linear dipole antennas, antenna arrays, thin-wire antennas, moment method analysis examples (vee dipole, folded dipole, etc.), and broadband and frequency-independent antennas. Computer-aided design and analysis of wire antennas, feed networks, and antenna arrays using antenna CAD software.

Prerequisite: EE 346

EE 449 Pulse and Digital Circuits (Credits: 4)

Design, analysis, and application of pulse and switching circuits using both Field Effect Transistors (FETs) and Bipolar Junction Transistors (BJTs). Transistor level design of digital integrated circuits including NMOS, CMOS, TTL, and ECL logic families. Design of digital interface and buffer circuits. Transmission line effects in digital applications. Three hours lecture, two hours lab.

Prerequisite: EE 431 and EE 432

EE 451 Digital Systems Design (Credits: 4)

(Also listed as CEG 360.) Topics include flip-flops, registers, counters, programmable logic devices, memory devices, register-level design, and microcomputer system organization. Students must show competency in the design of digital systems. Three hours lecture, two hours lab.

Prerequisite: EE 260

EE 454 VLSI Design (Credits: 4)

(Also listed as CEG 454.) Introduction to VLSI system design. Topics include CMOS devices and circuit design techniques, basic building blocks for CMOS design, fabrication processing and design rules, chip planning and layout, system timing and power dissipation, simulation for VLSI design, and signal processing with VLSI.

Prerequisite: EE 431 and EE 432 and EE 451

EE 456 Introduction to Robotics (Credits: 4)

(Also listed as CEG 456, ME 456.) An introduction to the mathematics, programming, and control of robots. Topics include coordinate systems and transformations, manipulator kinematics and inverse kinematics, trajectory planning, Jacobians, and control.

Prerequisite: MTH 253

EE 458 Digital Integrated Circuit Design with PLDs and FPGAs (Credits: 4)

(Also listed as CEG 458.) Design and application of digital integrated circuits using programmable logic devices (PLDs) and field programmable gate arrays (FPGAs). A commercial set of CAD tools (Mentor Graphics and Xilinx) will be used in the laboratory portion of the course.

Prerequisite: EE 451

EE 459 Integrated Circuit Design Synthesis with VHDL (Credits: 4)

(Also listed as CEG 459.) Application of VHSIC hardware description language (VHDL) to the design, analysis, multi-level simulation and synthesis of digital integrated circuits. A commercial set of CAD tools (Mentor Graphics) will be used in the laboratory portion of the course.

Prerequisite: CS 220 and EE 260

EE 462 Digital Integrated Circuit Design with PLDs and FPGAs (Credits: 4)

(Also listed as CEG 458.) Design and application of digital integrated circuits using programmable logic devices (PLDs) and field programmable gate arrays (FPGAs). A commercial set of CAD tools (Mentor Graphics and Xilinx) will be used in the laboratory portion of the course.

Prerequisite: CEG 360 or EE 451 and EE 459

EE 470 Introduction to Sensors (Credits: 4)

The course offers an overview of basic sensor technology to provide the engineering student with practical working knowledge of sensors. Course will include basic operating principles, basic electronics and measurement principles.

Prerequisite: EE 303 and PHY 315

EE 473 Communication Systems Design (Credits: 4)

Concepts and techniques of probability theory are reviewed and extended to random process and information theory. Baseband digital PCM technique, selected digital RF modems, and introduction to communication networks are presented.

Prerequisite: EE 421 and STT 363

EE 474 Wireless Communication System Lab (Credits: 1)

Hands on experience of wireless communication systems. Topics include: analog and digital modulation and demodulation (AM, FM, BPSK, QPSK, etc.), frequency-flat and frequency-selective fading, equalization, diversity, BER performance of digital wireless communication.

Prerequisite: EE 421 and EE 326 or STT 363

EE 475 Introduction to Radar Systems (Credits: 4)

Study of the radar equation, antenna patterns, target cross sections and system losses, radar measurements, pulse Doppler and coherent techniques, detection probability and signal-to-noise ratio, side lobe clutter, synthetic arrays, and pulse compression techniques.

Prerequisite: EE 322

EE 476 Wireless Communication II (Credits: 4)

This course introduces advanced wireless communication techniques. Topics include: spreading spectrum technology and CDMA, multi-user detection and interference cancellation, multi-carrier transmission and ultra-wideband transmission technology, cognitive radio and dynamic spectrum access.

Prerequisite: EE 473 and EE 474

EE 478 Coding Theory (Credits: 3)

(Also listed as MTH 456, CEG 478.) Examines the essentials of error-correcting codes and the study of methods for efficient and accurate transfer of information. Topics to be covered include basic concepts, perfect and related codes, cyclic codes, and BCH codes.

Prerequisite: MTH 253 or MTH 355

EE 480 Selected Topics in Electrical Engineering (Credits: 1 to 4)

Prototype offering for a new course in electrical engineering. Topics and prerequisites vary.

EE 481 Electrical Engineering Senior Design Project I (Credits: 3)

A project-oriented design course integrating design methodology with the principles of major electrical engineering disciplines. Students from working groups, define design projects and select faculty advisors according to their interests, needs and knowledge bases.

Prerequisite: EGR 335 and EE 417 or EE 454 or EE 436 or EE 446 or EE 473

EE 482 Electrical Engineering Senior Design Project II (Credits: 3)

A project-oriented design course integrating design methodology with the principles of major electrical engineering disciplines. The course involves project planning and management, design specifications, implementation, testing and evaluations, electronic documentation, written and oral reports.

Prerequisite: EE 481

EE 499 Special Problems in Electrical Engineering (Credits: 1 to 4)

Special problems in advanced engineering. Topics vary.

Earth and Environmental Sciences/EES

EES 105 The Planet Earth (Credits: 4)

Introduction to earth materials, their arrangement (structure), and the changes they undergo (geologic processes). Study of the common minerals and rocks and interpretation of topographic maps. Three hours lecture, two hours lab.

EES 106 The Evolving Earth (Credits: 4)

Exploration of geological past with some emphasis on North America through interpretation of fossil record. Three hours lecture, 2 hours lab. Recommended preparation: EES 105.

EES 107 The Earth and Human Affairs (Credits: 4)

Introduction to geologic hazards, resources and environmental science, demonstrating the interaction of human society with the geologic environment. Three hours lecture and two hours lab. Recommended preparation: EES 105.

EES 111 Physical Geology Honors I (Credits: 4.5)

Comprehensive treatment of the dynamic systems and materials of the earth. External processes and resulting land forces are also studied. Three hours lecture, three hours lab.

EES 112 Physical Geology Honors II (Credits: 4.5)

Comprehensive treatment of external and internal processes of the earth and the resulting landforms. Introduction to earth resources and other earth-like plants. Three hours lecture, three hours lab.

EES 113 Historical Geology Honors (Credits: 4.5)

Summary of current thought about the earth's history from its origin to the present. Topics include movement and evolution of the earth's crust, world climatic changes, and evolution of plants and animals. Three hours lecture, three hours lab.

EES 120 Honors Physical Historical Field (Credits: 12)

Offers the equivalent of a three-quarter introductory geology sequence to honors students during one summer. Five weeks of double lectures and labs are followed by a five-week field trip to the northern Rocky Mountains.

EES 199 Directed Studies (Credits: 1 to 4)

Research and problems related to specific needs and talents of students.

EES 201 Hydrology and Water Resources (Credits: 4)

Hydrology and the distribution and availability of water resources; natural and anthropogenic processes that influence flood and water quality. Three hours lecture and two hours lab. Some lectures are web-based.

EES 251 Physical Geology and Geomorphology I (Credits: 3)

Comprehensive treatment of the dynamic systems and materials of the earth. External processes and resulting land forces are also studied.

EES 252 Physical Geology and Geomorphology Lab I (Credits: 1.5)

Laboratory for mineral and rock identification in hand specimens.

EES 253 Physical Geology and Geomorphology II (Credits: 3)

Comprehensive treatment of external and internal processes of the earth and the resulting landforms. Introduction to earth resources and other earth-like plants.

Prerequisite: EES 251

EES 254 Physical Geology and Geomorphology Lab II (Credits: 1.5)

Laboratory for topographic and geologic map and geologic cross sections interpretation to recognize geological structures and their relation to geomorphology and landforms.

Prerequisite: EES 252

EES 255 Historical Geology (Credits: 3)

History of the earth, including geologic history of all of earth's continents. Review a origin of earth, development of the rock record, evolution of diverse life forms to produce a biological and physical history of the earth.

Prerequisite: EES 253

EES 256 Historical Geology Lab (Credits: 1.5)

Introduction to the fossil record, stratigraphic correlation, and the interpretation of simple geologic maps.

Prerequisite: EES 254

EES 260 Environmental Science and Society: A Cross Cultural Perspective (Credits: 4)

This course provides students with facts necessary to understand environmental problems and the ethical, social, political, and technological bases for their solution-using examples from many cultures from around the world.

EES 304 Earth Resources and Environmental Quality (Credits: 3)

Study of earth resources as the economic base of civilization. Natural geologic processes and geochemical cycles of global change are compared with human-induced impact on environment. Emerging trends in technology and policy matters and their influence on environmental quality are analyzed.

Prerequisite: EES 105 or EES 107 or EES 251

EES 308 Paleontology and Stratigraphy of Ohio (Credits: 4)

The geology of Ohio is explored. Field trips provide an understanding of the various rock formations, the history of life preserved in their fossils, and their importance to the economy of the state.

Prerequisite: EES 106 or ES 255

EES 309 Geologic Hazards and Environmental Quality (Credits: 4)

Hazards from geologic materials: reactive minerals, the asbestos controversy, radioactive and toxic gases. Hazards from geologic processes, earthquakes, volcanic eruptions, slope processes, subsidence, floods and coastal hazards. Geologic hazards monitoring, mitigation and avoidance. Risk evaluation. Three hours lecture, two hours lab or field trip.

EES 310 Issues in Science (Credits: 3)

(Also listed as BIO 310, CHM 310, PHY 310, and MTH 310). A writing-intensive course dealing with issues in science.

Prerequisite: ENG 101 and ENG 102

EES 312 Earth Materials I: Minerals and Rocks (Credits: 4.5)

Study of the structure, symmetry, and composition of minerals and the composition, classification, and origin of rocks. Lab emphasizes mineral and rock identification.

Prerequisite: EES 251 and EES 252

EES 313 Earth Materials I: Crystallography (Credits: 1)

Introduction to symmetry of crystals, crystal structure and crystal morphology.

Prerequisite: EES 251 and EES 252 and CHM 121

EES 314 Earth Materials II: Sedimentary Petrology (Credits: 4.5)

Introduction to the optical properties of common minerals. Survey of sedimentary rocks in hand specimen, thin section and field occurrence. Three hours lecture, three hours lab.

Prerequisite: EES 312 and EES 313

EES 324 Oceanography (Credits: 4)

Fundamentals of oceanography for students with an understanding of scientific principles. The course includes content that is needed by earth science teachers. Students will use the Internet and some basic computer applications.

Prerequisite: EES 253

EES 345 Concepts in Geology (Credits: 4.5)

Accelerated treatment of principles of physical and historical geology pertinent to teaching students in grade school (K-8). Includes laboratory exercises that will be effective for teaching K-8 students and can be used in a self-contained classroom. Elementary education majors only.

Prerequisite: PHY 245 or PHY 246 and CHM 246

EES 346 Earth Systems (Credits: 4.5)

Investigation of the processes that affect volcanic eruptions, global warming, ice ages, and how they affect the rest of the world. Study of the relationships between the atmosphere, biosphere, geosphere, and hydrosphere.

Prerequisite: EES 345 and BIO 345

EES 362 General Environmental Health (Credits: 4)

Relationship of physical/chemical/biotic environments to design/operation of systems and procedures employed in maintenance/promotion of quality, healthful human environments. Emphasized: food/dairy sanitation, solid waste, institutional/housing/recreational sanitation, and vector control.

EES 364 Solid and Hazardous Waste Management (Credits: 3)

Examines the fundamentals of solid, infectious, and hazardous waste management. Topics covered include regulatory history, regulatory processes, environmental audits, requirements for waste generators, transporters, treatment/storage/disposal facilities, and pollution prevention concepts.

EES 366 Environmental Sciences Internship (Credits: 9)

One-quarter internship in a cooperating environmental or public health agency or industrial organization. Supervised by faculty and professional environmentalist. Reports and specific assignments determined in cooperation with internship director. Graded pass/unsatisfactory. For environmental health majors only.

EES 368 Hazardous Waste Operations and Emergency Response (Credits: 4)

Covers the operation of managing hazardous materials and emergency response in the workplace or at spills or hazardous waste sites. Satisfies OSHA training requirement No. 29 CFR 1910.120.

EES 370 Hazwoper Refresher (Credits: 1)

Refresher training covering management of hazardous materials and energy response in the workplace or at spills or hazardous waste sites. Satisfies OSHA training requirement in 40 CFR 1910.120, the OSHA 8 hr. refresher training. Prerequisite: EES 368

EES 384 Earth Materials III: Sedimentology (Credits: 4.5)

Clastic and carbonate sedimentary rocks, their mineralogy, texture, provenance, and classification. Fluid flow sediment transport and deposition, sedimentary structures, and depositional environments. Three hours lecture, three hours lab.

EES 385 Igneous and Metamorphic Petrology (Credits: 4.5)

Origin of igneous and metamorphic rocks. Lab: use of thin sections and hand specimens for mineral identification, rock structures, and classifications. Three hours lecture, three hours lab.

EES 399 Special Problems in Earth and Environmental Sciences (Credits: 1 to 6)

Research problems for specific needs and talents of students. Topics vary.

EES 401 Topics in Earth and Environmental Science (Credits: 1 to 5)

Advanced Topics of current interest in the earth and environmental sciences. Topics vary. May be taken for a letter grade or pass/unsatisfactory.

EES 405 Ground Water Monitoring and Remediation (Credits: 4)

Principles of groundwater monitoring and cleanup system design. Theory and field practices for monitoring well drilling/installation, lysimeter installation for natural and contaminated groundwater, etc. Field visits to sites with contaminated aquifers undergoing remediation.

EES 417 Stratigraphy (Credits: 4.5)

Principles, rules, and techniques of correlation. Relationships between surface and subsurface correlation. Geologic and geophysical correlation techniques. Three hours lecture, three hours lab. Prerequisite: EES 255 and EES 256

EES 419 Invertebrate Paleontology (Credits: 4.5)

Morphology, geologic record, and geographic distribution of major invertebrate groups characterized by significant fossil representation. Three hours lecture, three hours lab. Prerequisite: EES 417

EES 421 Introduction to Structural Geology (Credits: 4.5)

Concepts of stress, strain and material behavior used to describe and explain how rocks deform, depositional structures. Prerequisite: EES 419

EES 422 Introduction to Applied Geophysics (Credits: 5)

(Also listed as PHY 422). Introduction to gravity, magnetic, seismic, and electrical methods of subsurface investigation. Three hours lecture, four hours lab. Prerequisite: MTH 131

EES 423 Seismic Methods (Credits: 4)

Study of the theory, observation, and analysis of seismic phenomena as applied to geologic exploration. Three hours lecture, two hours lab. Prerequisite: EES 105 and PHY 242

EES 424 Regional Tectonics (Credits: 3)

Study of the structure of the earth as revealed by solid earth geophysics and dynamics of internal geologic processes, and of the large scale tectonic structure of the North American continent obtained through the Decade of North American Geology Project. Prerequisite: EES 253

EES 425 Topical Concepts in Geophysics (Credits: 4)

(Listed jointly with PHY 425) Special topics in geophysics. 3 hours lecture, 2 hours lab. Prerequisite: EES 422

EES 426 Geophysics Seminar (Credits: 1)

Literature survey and presentations by students on selected topics in geophysics. Prerequisite: EES 422

EES 427 Process Geomorphology (Credits: 4)

Study of the processes that create and modify landforms. Classifications of landforms and what they reveal of past geologic processes and climates.

EES 428 Earth and Environmental Sciences Colloquium (Credits: 0.5 to 2)

Selected geological topics discussed by students, guest speakers, and faculty. May be taken for letter grade or pass/unsatisfactory.

EES 429 Geologic and Environmental Application of Remote Sensing (Credits: 4)

The use of aerial photographs, satellite and radar images for geological mapping, exploration of mineral resources, hydrogeology, hazard monitoring, environmental problems, and land use monitoring and analysis.

EES 430 Geologic and Environmental Application of GIS (Credits: 4)

Study of the concepts, terminology, data models, and basic analytical functions of Geographic Information System and its applications to solving environmental and geologic problems. ArcGIS is used for hands-on exercises and a class project.

EES 431 Electrical Methods in Environmental Geophysics (Credits: 4)

The principles and practices of acquisition and interpretation of data from electrical and electromagnetic geophysical techniques.
Prerequisite: EES 422

EES 432 Carbonate Sedimentology and Petrology (Credits: 4.5)

Interpretation of ancient and modern carbonate systems using sequence stratigraphic principles. Carbonate facies models as predictive tools for hydrocarbon exploration and aquifer modeling. Composition, origin, and diagenesis of carbonate rocks.
Prerequisite: EES 314 and EES 317

EES 433 Geophysical Field Research (Credits: 1 to 9)

Geophysical research participation in a project of the department. The content and techniques will depend on the particular project, but will normally have an extensive component of field data acquisition. May be repeated for credit. May be taken for a letter grade or pass/unsatisfactory.

EES 434 Field Geology (Credits: 9)

Geologic phenomena illustrated in the field. Introduction of mapping techniques and application of many geological disciplines to geologic analysis.
Prerequisite: EES 253 and EES 254 and EES 255 and EES 256 and EES 421

EES 436 Diagenesis of Sedimentary Rocks (Credits: 3)

Theory and application of petrographic techniques to studies of carbonate and clastic rocks, with emphasis on diagenesis and porosity development.

EES 437 Subsurface Digital Imaging and Processing (Credits: 4)

Digital processing and visualization of seismic reflection and ground penetrating radar data. Two hours lecture, four hours lab.
Prerequisite: EES 423

EES 438 Seismic Interpretation (Credits: 3)

Interpretation methods for seismic reflection data are studied with emphasis on structural and stratigraphic interpretation for petroleum traps.
Prerequisite: EES 423

EES 442 Fossil Vertebrates and Plants (Credits: 4.5)

Morphology, geologic record, and geographic distribution of major vertebrate and plant groups characterized by significant fossil representation. Three hours lecture, three hours lab.
Prerequisite: EES 255

EES 444 Formation Analysis (Credits: 4)

Theory, application, and interpretation of geophysical logs with emphasis on their use in correlation and determination of porosity, permeability, and fluid content of subsurface formations. Three hours lecture, two hours lab.

EES 445 Petroleum Geology (Credits: 4)

Hydrocarbon source rocks, maturation, and migration. Reservoir rocks and traps. Fluids in the reservoir; gas, oil, water, and relationships. Exploration for and production of hydrocarbons. Review of major petroleum basins and deposits.

EES 446 Sequence Stratigraphy (Credits: 3)

Provides a firm grounding in the mechanisms that produce sea-level change, how sediments respond to these changes, and how the architecture of basins develop over time.

EES 450 Hydrogeology (Credits: 4)

Provides a fundamental understanding of basic hydrological principles including ground water flow and chemistry, surface water hydrology, unsaturated flow, and meteorology. Students are expected to understand basic physics and calculus.

EES 454 Ground Water Flow and Transport (Credits: 4)

Covers the occurrence and movement of ground water, and the advection and dispersion of contaminants in groundwater flow regimes. Lab introduces interpreting the hydraulic properties of groundwater flow regimes from field data. Three hours lecture, two hours lab.
Prerequisite: MTH 230 and PHY 244

EES 455 Hydrogeochemistry (Credits: 4)

Focuses on the chemical interactions between natural waters and their geologic environments. Included are chemical principles, carbonate system, silicate equilibria and weathering, redox reactions, isotope hydrology and hydrogeochemical modeling.
Prerequisite: CHM 121 and CHM 122 and CHM 123

EES 456 Ground Water Contamination (Credits: 4)

Behavior of organic and inorganic pollutant in the vadose zone and saturated subsurface including vapor migration, dissolution, and sorption of LNAPLs and DNAPLs; chemical and microbiological degradation; and fate of chlorinated and other hydrocarbons.
Prerequisite: EES 450 or EES 455

EES 457 Site Remediation (Credits: 3)

Chemical and microbiological degradation of pollutants in subsurface. Diagnosis and assessment of contaminated sites. Concepts and techniques for LNAPL and DNAPL remediation; pump-and-treat, soil vapor extraction, bioventing/airsparging, chemical treatment, solvent extraction and bioremediation.
Prerequisite: EES 456

EES 458 Environmental Geochemistry (Credits: 4)

Introduction to environmental organic pollutants. Concepts in behavior of pollutants; vapor pressure, solubility, air-water and solvent-water partitioning, dissociation in water, and sorption to solids. Chemical and microbial degradation of organic pollutants. Modeling concepts.
Prerequisite: EES 455 or EES 456

EES 464 Risk Assessment and Communication (Credits: 4)

Studies the determination of quantitative risk to humans and the environment. Approaches currently used in regulatory activities are described, showing method of hazard identification, sampling, data evaluation, exposure assessment, toxicity assessment, and risk characterization. Minimum of two BIO courses and completion of freshman chemistry required.

EES 466 OSHA Compliance (Credits: 1)

Intended for persons having management responsibility for occupational safety and health; this course provides practical application of the theories of safety and health law, and suggestions for their real world application.

EES 468 Environmental Law for Scientists (Credits: 3)

Geared to environmental sciences students, the course discusses applicable common law principles before focusing on the variety of environmental statutes, implementing regulations and enforcement.

EES 470 Environmental Internship and Career Analyses (Credits: 2)

Environmental internship experiences are presented and discussed, followed by group projects to evaluate current and near future career opportunities within the environmental health science field. For Environmental Health Science Majors only.

EES 472 Epidemiology and Community Health (Credits: 3)

Communicable and occupational diseases on contemporary importance; includes epidemiological investigation, environmental considerations, and control procedures. Prerequisite: EES 362 and STT 264

EES 474 Fundamental Occupational Health and Safety (Credits: 3)

Introduction to accident recognition, evaluation, and control in the work environment. Emphasis on methods of hazard recognition and control management.

Corequisite: EES 467
Prerequisite: CHM 123

EES 475 Fundamental Occupational Health and Safety Laboratory (Credits: 1)

Introduction to accident recognition, evaluation, and control in the work environment by hands-on equipment use. Methods of inspection, accident investigation, and evaluation of accident programs are stressed.

Corequisite: EES 466
Prerequisite: CHM 123

EES 476 Air Quality Management (Credits: 3)

Designed to provide a broad overview of the science of air quality and its management: includes atmospheric pollutants, dispersion, health and welfare effects, air-quality monitoring, source control, regulation, and indoor air pollution.

EES 478 Environmental Issues Seminar (Credits: 2)

Students will gain a better understanding of the controversies surrounding many current environmental issues, while also enhancing their library research, presentation and advocacy skills.

EES 482 Environmental Field Methods (Credits: 2)

Field-oriented course where students learn techniques of environmental field investigation, such as drilling methods and field sampling.

EES 491 Teaching Experience (Credits: 2)

Course is designed to give undergraduate majors experience in teaching laboratory sections of geology courses.

Prerequisite: EES 251 and EED 252 and EES 253 and EES 254 and EES 255 and EES 256

EES 496 Senior Thesis Research (Credits: 1 to 9)

Student participate in research data collection and data analysis. Students write a senior thesis in the style of a professional journal.

Prerequisite: EES 251 and EED 252 and EES 253 and EES 254 and EES 255 and EES 256 or equivalent

EES 499 Special Problems in the Earth and Environmental Sciences (Credits: 1 to 3)

Course allow students opportunity to perform research in earth and environmental science topics.

Engineering/EGR

EGR 101 Introductory Mathematics for Engineering Applications (Credits: 5)

Introduction to the use of differential and integral calculus with emphasis on engineering applications relevant to the fundamental courses in engineering and computer science.

Prerequisite: MTH 131

EGR 153 Fortran Programming (Credits: 4)

Introduction to the use of digital computers with structured FORTRAN as the programming language. Algorithm development and engineering problem-solving techniques. Use of library subroutines and graphical displays.

Prerequisite: MTH 229 or EGR 101

EGR 190 Fundamentals of Engineering and Computer Science (Credits: 4)

Provides a practical exposure to important applications and hands-on laboratory experience to give students an introduction to computer science and engineering. Teamwork and problem solving are emphasized.

EGR 191 Fundamentals of Engineering II (Credits: 3)

Continuation of EGR 190. Provides an introduction to engineering practice and the opportunity to examine different engineering fields. Includes freshman design experience culminating in a team competition. May be taken for a letter grade or pass/unsatisfactory.
Prerequisite: EGR 190

EGR 199 Special Topics in Engineering (Credits: 1 to 4)

Topics may vary. May be taken for letter grade or pass/unsatisfactory.

EGR 335 Technical Communications for Engineers and Computer Scientists (Credits: 3)

A modular approach to oral and written communication of complex technical information to an expert audience. Includes describing technical mechanisms and processes; designing and using tables, graphs, charts, and figures; producing technical proposals, progress reports, feasibility reports, and formal reports; and doing technical briefings.
Prerequisite: ENG 101 and ENG 102

EGR 482 Engineering Fundamentals (Credits: 3)

A review of the fundamental concepts covered in an undergraduate engineering curriculum to help students prepare for the fundamentals of engineering examination. Senior standing in an engineering program or graduation from an engineering program required. May be taken for a letter grade or pass/unsatisfactory.

EGR 499 Special Problems in Engineering (Credits: 1 to 5)

Special problems in advanced engineering. Topics vary. May be taken for letter grade or pass/unsatisfactory.

English/ENG

ENG 95 Classroom Communication for International Teaching Assistants (Credits: 3)

Introduction to effective communication skills for the classroom, emphasizing oral proficiency, teaching skills, and culture of the American classroom. Placement based on performance on the Wright State Oral Proficiency Test for International Teaching Assistants.

ENG 101 Academic Writing and Reading (Credits: 4)

Introduces students to principles of effective written communication and critical reading. Stresses invention, drafting, revising, editing, and self-assessment, along with effective critiquing and collaborating.

ENG 102 Writing in Academic Discourse (Credits: 4)

Adapts principles introduced in ENG 101 to typical university writing tasks. Stresses writing effectively within various contexts, reading critically, and using source materials effectively in argumentative and research writing.
Prerequisite: ENG 101 with minimum grade of C

ENG 110 ESL: Speaking (Credits: 4)

Basic course in spoken English, both production and comprehension. May be repeated. Open only to non-native speakers of English.

ENG 111 ESL: Basic Writing (Credits: 4)

Basic course in written communication, with an emphasis on sentence structure. Open to non-native speakers of English only.

ENG 112 ESL: Advanced Writing (Credits: 4)

Course in written communication with an emphasis on grammatical structures, organizational skills, and topic development. For non-native speakers of English only.

ENG 190 Issues and Ideas in Literature (Credits: 3)

Readings in literature dealing with a single theme or a specific problem; for example, crisis and confrontation in American literature, the images of the hero in literature, the supernatural and occult in literature, and sex and censorship in literature.
Prerequisite: ENG 102

ENG 199 Topics in English (Credits: 1 to 4)

Problems, approaches, and topics in the fields of English. Topics vary. May be taken for letter grade or pass/unsatisfactory.

ENG 201 Contemporary Literature (Credits: 3)

Readings in American and British fiction, poetry, and drama of the present and the recent past; for example, American novel since 1945, literature of the absurd, protest literature, and contemporary poetry.
Prerequisite: ENG 102

ENG 202 The Literary Tradition (Credits: 3)

Readings in British and American literature; for example, Shakespeare, American masterpieces, British novel, and readings in biography.
Prerequisite: ENG 102

ENG 203 World Literature (Credits: 3)

Readings in world literature; for example, the literature of Africa, the international best seller, and the hero in world myth.
Prerequisite: ENG 102

ENG 204 Great Books: Literature (Credits: 4)

Introduction to interpreting literature, using works from various periods and cultures, viewed in their social and historical contexts and read for their enduring interest.

ENG 205 Afro-American Literature (Credits: 4)

Readings in African American literature: for example, Phillis Wheatley to the present, nineteenth-century freedom literature, twentieth-century black novel, and the female African-American tradition. Titles vary.
Prerequisite: ENG 102

ENG 210 Introduction to Poetry (Credits: 3)

Poetry as a type of literature together with an introduction to various approaches to the enjoyment of poetry.
Prerequisite: ENG 102

ENG 211 Introduction to Fiction (Credits: 3)

Introduction to the reading of prose fiction including a study of the elements of fiction, various forms and modes of fiction, and the enjoyment of fiction.
Prerequisite: ENG 102

ENG 212 Introduction to Drama (Credits: 3)

Introduction to the study and analysis of drama including differences among plays of different periods.
Prerequisite: ENG 102

ENG 240 Intermediate Composition (Credits: 3)

Improvement of writing skills with special attention to individual writing weaknesses. Includes a review of basic writing principles.
Prerequisite: ENG 102

ENG 257 Basic Media Writing (Credits: 4)

(Also listed as COM 256.) Introduction to writing for the media. Structure and organization of media copy. Course requires reporting in the field.

ENG 300 Introduction to Literary Study I (Credits: 4)

Introduction to the discipline of English, with a focus on the study of poetry and the writing of critical papers on literary topics.
Prerequisite: ENG 102

ENG 301 Introduction to Literary Study II (Credits: 4)

Introduction to the discipline of English, with a focus on the study of narrative and the techniques of literary analysis and research.
Prerequisite: ENG 250 or ENG 300

ENG 303 Short Story Writing (Credits: 4)

Introduction to the theory and practice of writing the short story, including critical reading of contemporary short stories and group discussion of student written stories. May be repeated twice for credit.
Prerequisite: ENG 102

ENG 304 Dramatic Writing (Credits: 4)

(Also listed as TH 304.) Theory and practice of techniques of dramatic writing emphasizing writing of original plays.
Prerequisite: ENG 102

ENG 330 Business Writing (Credits: 4)

Written business and organizational communication; attention to various forms including short reports and informal oral presentations.
Prerequisite: ENG 102

ENG 333 Fundamentals of Technical Writing (Credits: 4)

Survey of the fundamental principles and skills used in scientific and technical writing.
Prerequisite: ENG 102

ENG 340 English for Teachers (Credits: 4)

Systematic methods of examining the sound system and sentence structure of English, with applications of language acquisition and variation related to the classroom.
Prerequisite: ENG 102

ENG 341 Advanced Composition for Teachers (Credits: 4)

Combines study and pedagogy of composition for education majors specializing in grades 4-12. Emphasis is placed on writing as a process and on improving writing skills.
Prerequisite: ENG 102

ENG 343 Advanced Composition (Credits: 4)

Emphasis on sophisticated techniques of expository writing and the refinement of style.
Prerequisite: ENG 102

ENG 344 Research Writing (Credits: 4)

Instruction in organizing, documenting, and writing of research papers. Research projects based not only on primary and secondary sources but also on experiment and investigation.
Prerequisite: ENG 102

ENG 345 Writing Workshop (Credits: 4)

Introduction to the teaching of writing in middle and high school language arts and English classes. Students will participate in writing workshop activities and study underlying principles of workshop instruction.
Prerequisite: ENG 102

ENG 346 Reading Workshop (Credits: 4)

Introduction to direct reading instruction and workshop methodology through the modeling of teaching strategies. Topics include classroom organization and planning, journals, questioning strategies, skills and literary minilessons, and response projects.
Prerequisite: ENG 102

ENG 347 Desktop Publishing and Writing for Integrated Language Arts (Credits: 4)

Introduction to computer applications for a variety of both print and online publications, including page design and layout, writing and editing.

ENG 350 British and American Literature: History (Credits: 4)

Representative works from major periods of British and American Literature, read with attention to their historical background and cultural contexts.
Prerequisite: ENG 102

ENG 351 British Texts: Medieval to 17th Century (Credits: 4)

Representative works of major English writers of the medieval period and the 16th century.
Prerequisite: ENG 102

ENG 352 British Texts: 17th to 18th Centuries (Credits: 4)

Representative works of major British writers of the 17th and 18th centuries.
Prerequisite: ENG 102

ENG 353 British Texts: 19th Century (Credits: 4)

Representative works of major romantic and Victorian writers.
Prerequisite: ENG 102

ENG 354 British Texts: 20th Century (Credits: 4)

Representative works of major English writers of the modern period.
Prerequisite: ENG 102

ENG 355 American Texts: Earlier 19th Century (Credits: 4)

Representative works of major American writers before the Civil War.
Prerequisite: ENG 102

ENG 356 American Texts: Later 19th Century (Credits: 4)

Representative works of major American writers from the Civil War to World War I.
Prerequisite: ENG 102

ENG 357 American Texts: 20th Century (Credits: 4)

Representative works of major American writers since the twenties.
Prerequisite: ENG 102

ENG 359 Post-Colonial Texts (Credits: 4)

Representative works of major Anglophone writers from around the world.
Prerequisite: ENG 102

ENG 364 Communication Graphics (Credits: 4)

(Also listed as COM 364.) Introduces basic principles of graphics communication, primarily as applied to print media. Includes the history and basic concepts of graphics communication, typography, photo editing, and graphic design.

ENG 366 Advanced News Writing (Credits: 4)

(Also listed as COM 366.) Advanced study of writing skills, practices, and procedures used in reporting news for mass media. Actual reporting in the field is required. News writing skills introduced in COM 256 are further refined.
Prerequisite: COM 256 or ENG 257

ENG 385 Adolescent Literature (Credits: 4)

Introduction to various types of literature written for young adults. Reading and analysis of adolescent books with an emphasis on their selection and use in the secondary language arts classroom.
Prerequisite: ENG 102

ENG 386 Teaching Shakespeare Through Analysis and Performance (Credits: 4)

Read and discuss plays by Shakespeare in the context of his times and with attention to teaching Shakespeare in high school. Topics include Shakespeare's texts and their performance in film and theatre.
Prerequisite: ENG 102

ENG 392 Poetry Writing Workshop (Credits: 4)

Intermediate practice in writing and revising poems, refining craft and style, with the aim of producing poetry of superior merit; group discussion of manuscripts; and reading and discussion of modern poetry and poetics. May be repeated twice for credit.
Prerequisite: ENG 302

ENG 393 Fiction Writing Workshop (Credits: 4)

Intermediate study and practice of the techniques and forms of fiction in a continuing workshop environment, with focus on improving the narrative skills of individual students. May be repeated twice for credit.
Prerequisite: ENG 303

ENG 399 Studies in Selected Subjects (Credits: 1 to 4)

Problems, approaches, and topics in the field of English. Topics vary.
Prerequisite: ENG 102

ENG 400 Topics in Computers and Professional Writing (Credits: 4)

Courses, seminars, or workshops in specialized topics relating to writing with computers.

ENG 402 Professional Editing (Credits: 4)

Instruction and experience in editing technical and professional documents, including both print and online publications. Covers types of editing, the production process and issues in editing.

ENG 404 Short Topics in Technical, Business, and Professional Writing (Credits: 1 to 4)

Short courses, seminars, or workshops in specialized topics relating to business, technical, and professional writing.
Prerequisite: ENG 333

ENG 405 Topics in Technical and Professional Writing (Credits: 1 to 6)

Courses, seminars, or workshops in specialized topics relating to business, technical, and professional writing.
Prerequisite: ENG 333

ENG 410 Studies in British Literature (Credits: 4)

Intensive study of British literary history and/or the work of individual British writers. Intended to develop an understanding of literature within the contexts of the author's life, literary production, and historical background.
Prerequisite: ENG 251 or ENG 301 and ENG 351 or ENG 352 or ENG 353 or ENG 354 or ENG 355 or ENG 356 or ENG 357 or ENG 359

ENG 430 Studies in Literature, Gender and Sexuality (Credits: 4)

Intensive study of literature from the perspectives of gender theory. Intended to develop an understanding of gender and sexuality as important both to literature and to its critical appreciation.

Prerequisite: ENG 251 or ENG 301 and ENG 351 or ENG 352 or ENG 353 or ENG 354 or ENG 355 or ENG 356 or ENG 357 or ENG 359

ENG 440 Studies in Ethnic and Regional Literature (Credits: 4)

Intensive study of literature from different regions of America or reflecting the experiences of different ethnic groups. Intended to develop an understanding of race, region, and ethnicity as important both to literature and to its critical appreciation.

Prerequisite: ENG 251 or ENG 301 and ENG 351 or ENG 352 or ENG 353 or ENG 354 or ENG 355 or ENG 356 or ENG 357 or ENG 359

ENG 450 Studies in Literary Theory (Credits: 4)

Intensive study of literary theory in order to develop an understanding of critical questions and approaches.

Prerequisite: ENG 251 or ENG 301 and ENG 351 or ENG 352 or ENG 353 or ENG 354 or ENG 355 or ENG 356 or ENG 357 or ENG 359

ENG 454 Feature Story Writing (Credits: 4)

(Also listed as COM 454.) Finding, writing, polishing, and marketing feature material.

Prerequisite: ENG 257 or COM 256

ENG 458 Editing for the Media (Credits: 4)

(Also listed as COM 458.) Editing of copy for mass media with emphasis on newspaper format, headline writing, rewriting, and general copy desk.

Prerequisite: ENG 257

ENG 460 Studies in Literary Genres and Themes (Credits: 4)

Intensive study of literary genres (e.g., poetry, the novel, satire) or of literary themes. Intended to develop an understanding of formal and structural aspects of literature.

Prerequisite: ENG 251 or ENG 301 and ENG 351 or ENG 352 or ENG 353 or ENG 354 or ENG 355 or ENG 356 or ENG 357 or ENG 359

ENG 470 Studies in World Literature (Credits: 4)

Intensive study of non-European literature, focused nationally, regionally, cross-culturally, thematically, and generically.

Prerequisite: ENG 251 or ENG 301 and ENG 351 or ENG 352 or ENG 353 or ENG 354 or ENG 355 or ENG 356 or ENG 357 or ENG 359

ENG 474 TEFL Practices and Materials (Credits: 4)

Identifies the diverse needs of students learning English as a foreign language and the most effective curriculum development, resources, and teaching techniques to address these needs.

Prerequisite: ENG 102

ENG 475 TEFL Theory and Culture (Credits: 4)

Builds awareness of cultural similarities and differences and addresses the impact of cultural and personal variables on English language learning. Provides techniques for integrating culture into the EFL classroom.

Prerequisite: ENG 102

ENG 477 Workshop (Credits: 1 to 6)

Intensive study of selected special topics or problems to meet the particular needs of participating students. Titles vary.

ENG 478 Introduction to Linguistics (Credits: 4)

Presents a survey of the scientific study of language and focuses on describing and explaining languages in their natural environment. Includes phonetics, phonology, morphology, syntax, semantics, pragmatics, and sociolinguistics.

Prerequisite: ENG 102

ENG 479 History of the English Language (Credits: 4)

Study of the ancestry and early growth of the English language, the history of English sounds and inflections, the development of the English vocabulary, and variations in pronunciation and usage in modern British and American English.

Prerequisite: ENG 102

ENG 480 Studies in Language and Literacy (Credits: 4)

Intensive study of linguistic and/or rhetorical approaches to language. Intended to develop an understanding of language history, structure, theory, pedagogy, and context.

Prerequisite: ENG 478

ENG 481 Theory of ESL (English as a Second Language) (Credits: 4)

Presents a theoretical foundation for the study of second language acquisition, including first language acquisition, interlanguage, contrastive analysis, error analysis, language universals, communicative competence, and learning theory.

Prerequisite: ENG 340 or ENG 478

ENG 483 Sociolinguistics (Credits: 4)

Examines the sociology of language, the ethnography of speaking, the variation in language structures, the social varieties of English, with their political and educational implications, and the relationship of these to second language acquisition.

Prerequisite: ENG 478

ENG 484 TESOL Practices and Materials (Credits: 4)

Develops skills in designing curricula through creating and adapting appropriate materials and activities, as well as evaluating and effectively using existing practices and materials available to the teacher of ESL/EFL.

Prerequisite: ENG 478 ENG 102 or ENG 340

ENG 485 Studies in English Education (Credits: 2 to 4)
(Also listed as ED 420.) Focus on theoretical issues and practical problems of teaching English at all levels, including the teaching of writing and teaching of English to speakers of other languages (TESOL).
Prerequisite: ENG 340 or ENG 478

ENG 486 Integrated Language Arts Curriculum (Credits: 4)

Study of the integration and pedagogy of reading, writing, listening, speaking, viewing, and visually representing. Emphasis on responding to literature and introduction to interdisciplinary and thematic units.

Prerequisite: ENG 341 and ENG 345 and ENG 346 and ENG 385

ENG 487 TESOL Assessment (Credits: 4)

Investigates key concepts and underlying theories in the field of language assessment. Looks at purposes and types of assessment with a focus on the development and use of authentic assessment for English language learners.

ENG 488 TESOL in Pre-K-12 Class (Credits: 4)

Focuses on ESL education in the U.S. and Ohio. Examines historical and legal precedents. Emphasizes components necessary for successful programs, including curricula, assessment, classroom dynamics, and parental involvement.
Prerequisite: ENG 102

ENG 490 Senior Seminar in Literature (Credits: 4)

Intensive study and discussion of a significant writer or work. Students will conduct a quarter-long research project culminating in a seminar paper; students will also prepare a portfolio of their undergraduate work. Titles vary.
Prerequisite: ENG 251

ENG 491 Directed Reading (Credits: 1 to 3)

Supervised reading in special areas of American, English, or world literature in translation, and English language and linguistics not available through course structure. Limited to senior English majors with a 3.0 cumulative average.

ENG 492 Poetry Writing Seminar (Credits: 4)

Advanced students work closely with instructor on writing and revision, leading to the creation of professional and publishable poetry. Reading and discussion of contemporary poetry and poetics. May be repeated twice for credit.

ENG 493 Fiction Writing Seminar (Credits: 4)

Advanced study and practice of the techniques and forms of fiction of any length, with emphasis on producing fiction of professional and publishable quality. May be repeated twice for credit.

ENG 494 Studies in Creative Writing (Credits: 4)

Specialized courses in genres, modes, styles, practices, creative processes, and the craft of fiction, creative non-fiction, poetry, or playwriting.
Prerequisite: ENG 302 and ENG 303 or ENG 304

ENG 495 Internship (Credits: 4)

Practical work experience performing writing-related tasks in cooperation with local business, professional, and service organizations. Performance is supervised and evaluated by the director of writing programs. Graded pass/unsatisfactory.

ENG 498 English Honors Tutorial (Credits: 2)

Two-quarter sequence for senior English majors who are doing an English honors project.

ENG 499 English Honors Tutorial (Credits: 2)

Two-quarter sequence for senior English majors who are doing an English honors project.

Engineering Physics/EP

EP 231 Contemporary Areas of Engineering Physics (Credits: 1)

Survey of areas of engineering physics. Discussion of specific problems in fields such as space science, fluid and plasma dynamics, thermal science, lasers, instrumentation, materials research, and nuclear engineering.

EP 322 Applied Optics (Credits: 4)

(Also listed as PHY 322.) Study of optical instruments by means of both geometrical and physical optics. Theory and application of interferometry and light detection devices. Brief introduction to lasers and holography. Three hours lecture, two hours lab.

Prerequisite: PHY 244 and MTH 253

EP 400 Properties of Semiconductor Materials (Credits: 3)

(Also listed as PHY 400.) Crystal structure, energy bands, charge carriers, and carrier motion in semiconductors. Electrical and optical properties. P-N junction diodes. Equilibrium, DC, AC, and transient characteristics. Metal-semiconductor junctions. Diode design.
Prerequisite: PHY 242 and PHY 244 and CHM 121

EP 401 Semiconductor Device Physics (Credits: 3)

(Also listed as PHY 401.) Covers structure and characteristics of bipolar transistors, field effect transistors, and other selected devices. Includes design and computer modeling of devices.
Prerequisite: PHY 400 or EP 400

EP 402 Semiconductor Device Processing (Credits: 3)

(Also listed as PHY 402.) Survey of the individual processes used in fabricating semiconductor devices. Integration of these processes to produce MOS and bipolar structures. Computer design aids.

Prerequisite: EP 401 or ME 370 and PHY 401

EP 432 Lasers (Credits: 3)

(Also listed as PHY 432). Introduction to the physics of lasers including emission and absorption processes in lasing, the factors controlling laser gain, the properties of optical resonators, and a survey of salient features for principal types of lasers.

Prerequisite: PHY 260 and MTH 233

EP 440 Introduction to Nanoscience and Nanotechnology (Credits: 4)

Introduction to nanoscience and technology. Topics include introduction to quantum mechanics, fabrication, characterization, materials, electronic properties, optical properties, magnetic properties, devices, MEMS and NEMS.

Prerequisite: PHY 240 and PHY 242 and PHY 244

EP 470 Introduction to Sensors (Credits: 4)

The course offers an overview of basic sensor technology to provide the engineering student with practical working knowledge of sensors. Course will include basic sensor operating principles, basic electronics and measurement principles.

Prerequisite: EE 303 or PHY 315

EP 494 Engineering Physics Project (Credits: 3)

Independent design/development/research projects in engineering physics. A detailed written final report and seminar presentation are required. A project proposal must be approved by the program faculty before registration.

EP 499 Honors Engineering Physics Projects (Credits: 3)

Independent design/development/research projects in engineering physics for departmental honors students. A final report, seminar presentation, and a journal submission are required. A project proposal must be approved by the program faculty before registration.

Exercise Biology/EXB

EXB 194 Careers in Environmental Health, Exercise Biology, Clinical Laboratory Sciences, Biological Sciences (Credits: 1)

Provide students with an overview of the programs and career options in Biology, Clinical Laboratory Science, Exercise Biology and Environmental Science.

EXB 260 Clinical EKG Interpretation For Exercise Science (Credits: 2)

A course to foster the development of basic knowledge and essential skills needed to identify and interpret EKG strips. In addition, basic cardiovascular medications and their probable influence on exercise performance will be described.

EXB 321 Human Lifespan Motor Development (Credits: 4)

A detailed study of movement and physiological changes which occur throughout the human lifespan and factors which influence this change.

Prerequisite: EXB 194 and BIO 278 and BIO 279

EXB 352 Human Biomechanics (Credits: 4)

Analysis of muscular interrelationships in basic body movements; analysis of principles of mechanics as they relate to fundamental and complex motor skills.

Prerequisite: EXB 194 and BIO 101 and MTH 130 and PHY 101 and PHY 111 and PHY 112 and PHY 102 and ANT 201 and ANT 202

EXB 353 Exercise Physiology I (Credits: 4)

Physiological adjustments and changes occurring in the human organism as a result of homeostatic challenges.

Prerequisite: EXB 194 and BIO 101 and EXB 260 and BMB 250 and BIO 111 and BIO 278 and BIO 279 or P&B 301

EXB 354 Exercise Physiology II (Credits: 4)

Exercise physiology as it is applied to fitness and performance. Programs that distinguish between health-related fitness and physiology of maximal performance will be discussed.

Prerequisite: BIO 279 and EXB 353

EXB 450 Clinical Exercise Physiology I (Credits: 4)

This course is a study of clinical exercise physiology with an emphasis on the cardio vascular system. Standards of practice for both physiological assessment and exercise prescription are based on guidelines established by the A.C.S.M.

Prerequisite: EXB 194 and BIO 101 and BIO 111 and BIO 278 and BIO 279 or P&B 301 and EXB 352 and EXB 353

EXB 451 Clinical Exercise Physiology II (Credits: 4)

This course is a study of clinical exercise physiology with an emphasis on pulmonary, metabolic, orthopedic and neuromuscular disorders. Standards of practice are based on the guidelines established by the A.C.S.M.

Prerequisite: EXB 450

EXB 452 Exercise Pharmacology (Credits: 3)

Exercise pharmacology concerns the effect of exercise on the therapeutic actions of commonly used prescription and over-the-counter drugs. The effect of drugs on athletic performance is also emphasized.

Prerequisite: BIO 212 and P&B 302

EXB 455 Cardiac Rehabilitation (Credits: 4)

An in-depth study of the primary responsibilities regarding the development and directing of safe and effective clinical exercise programs and secondary preventive services for the cardiac and pulmonary patient.

EXB 260 and EXB 352 and EXB 354 and EXB 451

EXB 466 Internship in Exercise Biology (Credits: 4 to 9)

Designed to involve exercise science students in a culminating practicum experience in their field of study during their senior year. The experience involved work site training or a research project. Prerequisite: EXB 260 and EXB 354 and EXB 452 and EXB 455

EXB 482 Exercise Sciences Senior Seminar (Credits: 1)

A culmination, in-depth, synthesis of the research literature pertaining to the field of exercise science.

Finance/FIN

FIN 205 Personal Financial Decision Making (Credits: 4)

Provides knowledge that helps students effectively manage their personal financial affairs. Topics include personal financial statements, budgeting, tax planning, investing and savings, consumer borrowing, insurance, real estate, and retirement planning.

FIN 310 Financial Management I (Credits: 4)

Introduction to the basic concepts, principles, and analytical techniques of financial management. Topics include financial planning and analysis, risk and return, time value of money, cost of capital, capital budgeting, and capital structure. Prerequisite: ACC 205 and CS 205 and EC 205 and MS 204

FIN 311 Financial Management II (Credits: 4)

Continuation of Finance 310. Emphasis is on financial decisions. Topics include dividend policy, current asset management and financing, derivatives and risk management, international finance, hybrid forms of financing, and mergers and acquisitions. Prerequisite: FIN 310

FIN 315 Foundations of Financial Planning (Credits: 4)

This course introduces basic concepts and techniques of financial planning from the perspective of a professional financial planner. Prerequisite: FIN 310

FIN 331 Real Estate Principles and Practices (Credits: 4)

Introduction to the principles and practices of real estate. Topics include the real estate profession and industry, real estate contracts, market analysis, valuation approaches, financing techniques, investment analysis, and home ownership. Successful completion of this course meets part of the licensing requirements for real estate salespeople in Ohio.

FIN 332 Real Estate Law (Credits: 4)

Includes all areas of law commonly concerned with the typical real estate practitioner and investor-consumer. Topics include the law of agency as applied to real estate brokers and salespeople, law of fixtures, estates (including leases), conveyance of real estate, real estate managers, zoning, cooperatives, condominiums, and license laws of Ohio. Successful completion of this course meets part of the licensing requirements for real estate salespeople in Ohio.

FIN 351 Risk and Insurance (Credits: 4)

Introduction to principles and practices of personal risk management and insurance. Topics include property and liability insurance, life insurance, disability insurance, health insurance, and social security.

FIN 400 Analysis of Corporate Financial Information (Credits: 4)

The objective of this course is to analyze corporate financial information from an investment analyst perspective. Prerequisite: FIN 311

FIN 401 Investing in Securities (Credits: 4)

Introduction to the theory and practice of investing in stocks, bonds, and other securities. Prerequisite: FIN 311

FIN 402 Seminar in Investments (Credits: 4)

Advanced treatment of the theory and practice of investing. Provides opportunities for individual investigation of selected topics. Prerequisite: FIN 401

FIN 403 Real Money Investing (Credits: 4)

This two-quarter course provides hands-on experience in managing real money. The students manage an investment portfolio using money from the University Foundation. The course helps students learn about asset valuation and allocation, and portfolio management. Prerequisite: FIN 401

FIN 404 Fixed Income Securities Analysis (Credits: 4)

The objective of this course is to provide students with an introduction to the valuation of fixed income securities and the management of fixed income investment portfolios. Prerequisite: FIN 311

FIN 405 Financial Derivatives (Credits: 4)

The objective of this course is to provide students with an understanding of futures, options, and swaps. Prerequisite: FIN 311

FIN 406 Security Analysis and Portfolio Management (Credits: 4)

In this course students will be exposed to the tools, strategies, statistics and history of portfolio analysis in competitive securities markets. Prerequisite: FIN 401

FIN 411 Management of Financial Institutions (Credits: 4)

Analysis of issues relating to the financial management of financial institutions.

Prerequisite: FIN 311

FIN 418 Financial Management III (Credits: 4)

Application of financial concepts and analytical techniques to financial decision making. Extensive use of cases.

Prerequisite: FIN 311

FIN 419 Seminar in Corporate Finance (Credits: 4)

In-depth treatment of advanced problems in financial management. Writing Intensive.

Prerequisite: FIN 418

FIN 420 Seminar in Financial Management (Credits: 4)

In-depth treatment of advanced problems in managerial finance. Topics include capital budgeting, capital structure theory, cost of capital, dividend policy, and long-term financial management.

Prerequisite: FIN 419

FIN 430 Real Estate Finance and Appraisal (Credits: 4)

In depth study of real estate finance and the theory and practice of appraising real estate. Successful completion of this course meets part of the licensing requirements for real estate sales people in Ohio.

Prerequisite: FIN 310 and FIN 331

FIN 435 Investing in Real Estate (Credits: 4)

Explores the theory and practice of real estate investment analysis as it relates to personal financial planning objectives.

Prerequisite: FIN 310 and FIN 331 and ACC 343

FIN 455 Advanced Topics in Insurance (Credits: 4)

Advanced treatment of theory and practice of insurance as it relates to personal and business planning objectives. Examination of selected topics and issues. Prerequisite FIN 351 or permission of instructor.

Prerequisite: FIN 351

FIN 461 Retirement Planning (Credits: 4)

Familiarizes students with the concepts of retirement planning and employee benefits and the application of these concepts to overall financial planning for individuals and small businesses.

Prerequisite: FIN 315 and FIN 351 and ACC 343

FIN 462 Estate Planning (Credits: 4)

Provides a theoretical and practical approach to estate planning. Includes estate and gift taxes, wills, trusts, and estate planning techniques.

Prerequisite: FIN 315 and FIN 351 and ACC 343

FIN 470 Practicum in Financial Planning (Credits: 4 to 8)

Students participate in financial planning laboratories and attend workshops on interviewing techniques, data gathering, plan preparation, and computerized planning models. For financial services majors only.

Prerequisite: FIN 351 and FIN 402 and FIN 461 and ACC 441

FIN 477 Finance Studies (Credits: 1 to 4)

Independent study in selected areas of finance or financial services.

FIN 478 Honors: Independent Study in Finance (Credits: 1 to 8)

Research in finance for fulfillment of the Honors program project requirement.

FIN 480 Special Topics in Finance (Credits: 4)

Seminar in a finance topic of current and timely interest. Topics and prerequisites vary.

FIN 481 Internship in Finance (Credits: 1 to 6)

One-quarter faculty-supervised internship in finance. Students work in a firm or public agency, participate in seminars, and submit reports. Topics vary.

FIN 490 International Financial Management (Credits: 4)

Study of the international aspects of financial management. Topics include foreign exchange management, international capital budgeting, international financing, tax planning, and working capital management.

Prerequisite: FIN 310

French/FR

FR 101 First Year French (Credits: 4)

Communicative introduction to French structures and vocabulary and to French and Francophone cultures. Practice in speaking, listening, reading and writing.

FR 102 First Year French (Credits: 4)

Communicative introduction to French structures and vocabulary and to French and Francophone cultures. Practice in speaking, listening, reading and writing.

Prerequisite: FR 101

FR 103 First Year French (Credits: 4)

Communicative introduction to French structures and vocabulary and to French and Francophone cultures. Practice in speaking, listening, reading and writing.

Prerequisite: FR 102

FR 111 Essentials of French (Credits: 4)

Introduction to French with emphasis on speaking the language.

FR 150 French Grammar Review (Credits: 4)

A thorough review of French grammar with an emphasis on oral practice.

FR 201 Second Year French (Credits: 4)

Grammar review, reading, and discussion of selected texts, with practice in speaking and writing the language.

Prerequisite: FR 103

FR 202 Second Year French (Credits: 4)

Grammar review, reading, and discussion of selected texts, with practice in speaking and writing the language.

Prerequisite: FR 201

FR 203 Second Year French (Credits: 4)

Grammar review, reading, and discussion of selected texts, with practice in speaking and writing the language.

Prerequisite: FR 202

FR 311 French Conversation (Credits: 4)

Practice in oral use of French emphasizing the culture of the French-speaking world.

Prerequisite: FR 203

FR 312 French Conversation (Credits: 4)

Practice in oral use of French emphasizing the culture of the French-speaking world.

Prerequisite: FR 203

FR 313 French Conversation (Credits: 4)

Practice in oral use of French emphasizing the culture of the French-speaking world.

Prerequisite: FR 203

FR 321 French Composition (Credits: 4)

321 and 322: Writing techniques and grammar review; written stylistic analyses.

Prerequisite: FR 203

FR 322 French Composition (Credits: 4)

321 and 322: Writing techniques and grammar review; written stylistic analyses.

Prerequisite: FR 203

FR 323 French Composition (Credits: 4)

Advanced grammar review; Study of linguistic functions/genres of writing through structural and stylistic analyses and pastiches of model texts.

Prerequisite: FR 321 and FR 322

FR 325 Business French (Credits: 4)

An introduction to the language of business French with insight into France's place in the global economy.

Prerequisite: FR 203

FR 331 Survey of French Literature (Credits: 4)

Middle Ages to the present. Topics vary.

Prerequisite: FR 321 and FR 322 and FR 323

FR 332 Survey of Francophone Literature (Credits: 4)

Survey of literature from one or more regions of the French-speaking world. Topics vary.

Prerequisite: FR 321 and FR 322 and FR 323

FR 351 French Civilization (Credits: 4)

Study of the main currents of French civilization with emphasis on historical aspects. Conducted in French.

Prerequisite: (FR 311 or FR 312 or FR 313) and (FR 321 or FR 322 or FR 323)

FR 361 French Phonetics (Credits: 2)

Pronunciation, diction, and intonation. Corrective exercises and laboratory work.

Prerequisite: FR 311 and FR 321

FR 381 Applied Elementary French Instruction (Credits: 1)

French majors assist elementary course instructors in conducting classes. For French majors only.

FR 382 Applied Elementary French Instruction (Credits: 1)

French majors assist elementary course instructors in conducting classes. For French majors only.

FR 383 Applied Elementary French Instruction (Credits: 1)

French majors assist elementary course instructors in conducting classes. For French majors only.

FR 403 Advanced Studies: Language/Civilization (Credits: 4)

Conducted in French. Topics vary.

Prerequisite: FR 321 or FR 322 or FR 323

FR 421 Literature of the Middle Ages (Credits: 4)

Selected medieval texts: epic poems, romances, and plays.

Prerequisite: FR 321 and FR 322 and FR 323

FR 422 Poetry from Villon to Chénier (Credits: 4)

Three centuries of French poetry: Villon, Marot, Du Bellay, Ronsard, d'Aubigné, Malherbe, La Fontaine, Boileau, Voltaire, and Chénier.

Prerequisite: FR 321 and FR 322 and FR 323

FR 423 Seventeenth and Eighteenth Century Novel (Credits: 4)

Selected novelists including Mme. de La Fayette, Scarron, Fénelon, Montesquieu, Lesage, Prévost, Diderot, and Laclos.

Prerequisite: FR 321 and FR 322 and FR 323

FR 441 Libertines and Moralists: Rabelais to Voltaire (Credits: 4)

Currents of skepticism and humanism in French intellectual history. Major authors: Rabelais, Montaigne, Saint-Evremond, La Bruyère, La Rochefoucauld, Bayle, Fontenelle, Diderot, and Voltaire.

Prerequisite: FR 321 and FR 322 and FR 323

FR 442 Seventeenth and Eighteenth Century Theatre (Credits: 4)

Works of Corneille, Molière, Racine, Marivaux, Diderot, Voltaire, and Beaumarchais.

Prerequisite: FR 321 and FR 322 and FR 323

FR 443 The Enlightenment (Credits: 4)

History of political and social ideas in 18th-century France. Based principally on works of Montesquieu, Diderot, Voltaire, and Rousseau.
Prerequisite: FR 321 and FR 322 and FR 323

FR 450 Independent Undergraduate Research (Credits: 1 to 4)

Topics vary.

FR 451 Romanticism from Rousseau to Hugo (Credits: 4)

Includes Bernardin de Saint-Pierre, Chateaubriand, Mme. de Staël, Nodier, Lamartine, Vigny, Musset, and Nerval.
Prerequisite: FR 321 and FR 322 and FR 323

FR 452 Nineteenth Century Novel (Credits: 4)

Chateaubriand, Constant, Stendhal, Balzac, Flaubert, Zola, and France.
Prerequisite: FR 321 and FR 322 and FR 323

FR 453 Poetry from Baudelaire to Breton (Credits: 4)

Symbolists, decadents, and surrealists.
Prerequisite: FR 321 and FR 322 and FR 323

FR 454 Nineteenth Century Short Story (Credits: 4)

Intensive study of such authors as Merimée, Gautier, Balzac, Flaubert, Maupassant, and Villiers de l'Isle Adam.
Prerequisite: FR 321 and FR 322 and FR 323

FR 462 Twentieth Century Literature: The Novel (Credits: 4)

The novel.
Prerequisite: FR 321 and FR 322 and FR 323

FR 463 Twentieth Century Literature: Drama (Credits: 4)

Drama.
Prerequisite: FR 321 and FR 322 and FR 323

FR 464 Twentieth Century Literature: Poetry (Credits: 4)

Poetry.
Prerequisite: FR 321 and FR 322 and FR 323

FR 465 Studies in French and Francophone Literature (Credits: 4)

Selected topics in French and Francophone literature and film that investigate various themes, myths, genres, literary movements, or characters.
Titles vary.
Prerequisite: FR 321 or FR 322 or FR 323

FR 481 Independent Reading for Advanced Students (Credits: 4)

Topics vary.

FR 482 Independent Reading for Advanced Students (Credits: 4)

Topics vary.

Geography/GEO**GEO 149 Global Awareness Through Map Study (Credits: 3)**

Introduction to maps and their uses as a means to gain global awareness.

GEO 201 Principles of Physical Geography (Credits: 4)

Study of the elements of the human natural environment at regional and global scales including examination of the interactions among climate, soils, vegetation, landscapes, and people.

GEO 202 Principles of Cultural Geography (Credits: 4)

Study of major cultural elements of the human environment including examination of their spatial interactions and factors influencing their location and distribution.

GEO 203 Principles of Economic Geography (Credits: 4)

Examination of the principal geographic factors influencing human activities related to production, exchange, and consumption of goods and services.

GEO 249 Global Awareness (Credits: 4)

Introduction to maps and their uses as a means to gain global awareness.

GEO 302 Political Geography (Credits: 4)

Geographic appraisal of factors influencing evolution, structure, resource base, function, and associations of political units.

GEO 317 Urban Planning I: Introduction to Urban Planning (Credits: 4)

Examination of the development of city planning as a professional discipline. Consideration of the contributions to planning by the arts and sciences. Selected activities and functions of contemporary urban planning agencies are viewed from the perspective of current urban problems.

GEO 318 Urban Planning II: Principles of Planning (Credits: 4)

Includes the role of planning in urban structures, and duties and responsibilities of planning commissions; process of preparing comprehensive plans; population change, the economic base, and employment change; and determinants of future urban structure.

GEO 322 Principles of Geomorphology (Credits: 4)

Distribution of world's landforms with emphasis on processes and systems functioning to shape the natural landscape. Attention to three-way interaction among landforms, other physical factors, and people.
Prerequisite: GEO 201

GEO 325 World Regional Geography (Credits: 4)

Discussion of the nature of selected world regions and their spatial relationships. Emphasizes the unique characteristics of the cultures and landscapes of these regions applying basic geographic concepts.

GEO 334 Climatology for Earth Science Teachers (Credits: 4)

Interaction of weather and climate with various earth systems. Includes observation, measurement, and analysis of meteorological elements and controls. For nonmajors only.

GEO 340 Urban Geography (Credits: 4)

General nontechnical introduction to urban geography focusing on major geographic concepts and principles relating to location, function, and structure of urban areas.

GEO 343 Concepts in Urban Geography (Credits: 4)

Examination of selected concepts, generalizations, and research methods of urban geography with emphasis on the spatial structure of residential populations, distribution of social pathologies, and segregation of social groups.

GEO 353 Location Theory (Credits: 4)

Study of theoretical aspects of the location of human activities. Introduction to theories and concepts regarding location and spatial arrangement of economic activities.
Prerequisite: GEO 203

GEO 354 Geography of Manufacturing (Credits: 4)

Factors of industrial location using empirical examples. Includes introduction to basic theories and techniques underlying the decision process in manufacturing locations.

GEO 360 Systematic Geography (Credits: 4)

Analysis of various geographic factors. Topics vary.

GEO 361 Remote Sensing (Credits: 4)

Basic survey of imaging remote sensor types and their operational characteristics including sensors for the ultraviolet, visual, infrared, and microwave portions of the electromagnetic spectrum.
Prerequisite: GEO 201

GEO 362 Remote Sensing of the Environment (Credits: 4)

Application of remote sensing techniques to environmental and resource problems. Emphasis on optimizing sensor selection to enhance image information content.
Prerequisite: GEO 361

GEO 365 Cartography (Credits: 5)

Principles of map projections, their construction, and their use in illustrating geographic relationships. Includes methods of design compilation and graphic representation of data.

GEO 370 Regional Geography (Credits: 4)

Physical and cultural analysis of major and minor world regions. Topics vary.

GEO 375 Environmental Conservation (Credits: 4)

Economic and geographic appraisal of resource conservation in the world, emphasizing an analytical approach to solving such contemporary problems as human population growth, environmental quality, recreation and open space, and resource management.
Prerequisite: GEO 202 or GEO 203

GEO 385 Geographic Methodology (Credits: 5)

Examination of the nature, tools, methods, and techniques of geographic analysis. Emphasis on design, compilation, interpretation, and presentation of research materials.

GEO 399 Studies in Selected Subjects (Credits: 1 to 4)

Problems, approaches, and topics in the field of geography. Topics vary.

GEO 414 Urban Planning Seminar (Credits: 4)

Examination of urban plans and planning proposals. Includes future land use plans, community facilities and public utility plans, and traffic and circulation plans. Considers modern theories of planning and the planning and design of new communities.

GEO 419 Urban Planning III: The Land Use Plan (Credits: 4)

Process of preparing comprehensive urban plans. Methods for assessing land use conditions, housing patterns, and urban deterioration. Students participate in the development of a land use plan for selected area.
Prerequisite: GEO 318

GEO 430 Climatology I (Credits: 4)

Observation, measurement, and analysis of climatic elements and controls, climatic classification, and relation of climate to human economic and social activities.

GEO 431 Meteorology (Credits: 4)

Development and application of first principles governing the atmosphere at rest and in motion. Examination of the general circulation. Applied meteorology.
Prerequisite: MTH 145

GEO 432 Climatology II (Credits: 4)

Principles of physical and dynamical climatology. Evaluation of local and regional transports and conversions of energy in the earth-atmosphere system.
Prerequisite: GEO 430

GEO 441 Seminar in Urban Geography (Credits: 4)

Geographic perspective in the study of cities. Recent developments in theory, method, and techniques in urban geographic research with emphasis on the behavioral approach.

GEO 445 Intermediate Cartography and Map Interpretation (Credits: 5)

Study and practice of compilation processes for the development of maps and models using primary data sources.

Prerequisite: GEO 365

GEO 446 Map and Photo Interpretation (Credits: 4)

Uses of map and photographic data in close and long range photogrammetry. Emphasis on the full spectrum of photo interpretation as applied to the controlled mapping of terrestrial and marine surfaces.

Prerequisite: GEO 445

GEO 447 Geographic Information Systems (Credits: 5)

Principles, structures, and applications of geographic information systems and utilization of data from topographic, remotely sensed, and photogrammetric sources.

Prerequisite: GEO 365

GEO 448 GIS Applications (Credits: 5)

Students apply GIS techniques to solve public/private sector information and development problems. Solutions entail data analysis and forecasting, using ARC/INFO geographic information system methods.

Prerequisite: GEO 447

GEO 455 Geography of Transportation (Credits: 4)

An analysis of spatial aspects and structural characteristics of transport networks, the movement of goods, and their relationship to regional economic structures.

Prerequisite: GEO 203 or GEO 353

GEO 458 Human Perception in Resource Management (Credits: 4)

Spatial factors influencing human response and decision making in resource-use schema. Study of how people perceive environmental elements and apprehend resources and natural hazards such as floods and droughts.

GEO 463 Geographic Applications for Remotely Sensed Data (Credits: 4)

Application of geographic methodology to problems employing photographic and machine-processed multispectral scanner data in contemporary use in academic research, environmental analysis, and planning.

Prerequisite: GEO 362

GEO 479 Landscape Urban Planning (Credits: 5)

A systematic approach to landscape analysis for urban site planning using basic data sources. Emphasis is on landscape capabilities for satisfying human needs and uses.

Prerequisite: GEO 318

GEO 481 Special Problems in Geography (Credits: 1 to 4)

Research and problems designed for specific needs and talents of students. Topics vary.

GEO 482 Special Problems in Geography (Credits: 1 to 4)

Research and problems designed for specific needs and talents of students. Topics vary.

GEO 484 Biogeography (Credits: 3 to 4)

(Also listed as BIO 484.) Introduction to factors affecting the geographical distribution of plants and animals. Students registering for three credit hours attend lectures only; registration for four credit hours requires an additional laboratory section.

Prerequisite: GEO 201 and GEO 330

GEO 486 Foundations of Geography (Credits: 4)

A study of the evolution of the discipline through analyses of the approaches, emphases, methodologies, paradigms, and traditions in geography.

GEO 492 Geography Internship (Credits: 1 to 6)

Provides geography majors 15 clock hours of practical experience under academic supervision each week during the quarter with a cooperating public agency or private firm. Topics vary. For geography majors only.

GEO 493 Honors Project in Geography (Credits: 4)

Provides geography majors of superior academic ability the opportunity to use, broaden, and demonstrate the knowledge and skills acquired.

GEO 494 Honors Project in Geography (Credits: 4)

Provides geography majors of superior academic ability the opportunity to use, broaden, and demonstrate the knowledge and skills acquired.

German/GER

GER 101 First Year German (Credits: 4)

Study of the vocabulary and structure of the German language; practice in conversation, reading, and writing.

GER 102 First Year German (Credits: 4)

Study of the vocabulary and structure of the German language; practice in conversation, reading, and writing.

Prerequisite: GER 101

GER 103 First Year German (Credits: 4)

Study of the vocabulary and structure of the German language; practice in conversation, reading, and writing.

Prerequisite: GER 102

GER 111 Essentials of German (Credits: 4)

Introduction to German with an emphasis on speaking the language.

GER 115 German for Reading Knowledge (Credits: 4)

Introduction to all main points of grammar; practice in recognizing grammatical constructions and using a dictionary; and selected readings of adult-level texts from various fields. May be taken for letter grade or pass/unsatisfactory.

GER 150 German Grammar Review (Credits: 4)

A thorough review of German grammar with an emphasis on oral practice.

GER 201 Second Year German (Credits: 4)

Grammar review, reading, and discussion of selected texts with practice speaking and writing the language.

Prerequisite: GER 103

GER 202 Second Year German (Credits: 4)

Grammar review, reading, and discussion of selected texts with practice speaking and writing the language.

Prerequisite: GER 201

GER 203 Second Year German (Credits: 4)

Grammar review, reading, and discussion of selected texts with practice speaking and writing the language.

Prerequisite: GER 202

GER 215 Scientific German (Credits: 4)

Intensive reading in all areas of expository and technical German.

Prerequisite: GER 103

GER 311 German Conversation (Credits: 4)

Emphasis on the culture of the German-speaking world.

Prerequisite: GER 203

GER 325 Business German (Credits: 4)

An introduction to the language of business German with insight into Germany's place in the global economy.

Prerequisite: GER 203

GER 326 Business German (Credits: 4)

Study of business and culture behind German. Development of communication skills and intercultural understanding. Use of German in international business.

Prerequisite: GER 325

GER 331 Survey of German Literature (Credits: 4)

Historical survey of German literature from its beginning to the present. 331: Literature of the Middle Ages, Renaissance, Reformation, Enlightenment, and Storm and Stress. 332: Classicism, Romanticism, Poetic Realism, and Modern Period.

Prerequisite: GER 203

GER 332 Survey of German Literature (Credits: 4)

Historical survey of German literature from its beginning to the present. 331: Literature of the Middle Ages, Renaissance, Reformation, Enlightenment, and Storm and Stress. 332: Classicism, Romanticism, Poetic Realism, and Modern Period.

Prerequisite: GER 203

GER 351 German Culture and Civilization (Credits: 4)

Survey of cultural influences and of political, social, economic, religious, educational, and cultural institutions.

Prerequisite: GER 203

GER 361 Introduction to Germanic Folklore (Credits: 4)

Survey of Germanic folklore as it relates to literature.

Prerequisite: GER 203

GER 399 Studies in Selected Subjects (Credits: 1 to 4)

Problems, approaches, and topics in the field of German. Topics vary.

GER 403 Advanced Studies: Welt Krieg-Kalter Krieg-Wiedervereinigung (Credits: 4)

Topics vary. Conducted in German.

Prerequisite: GER 342 and GER 322

GER 405 Early German Literature (Credits: 4)

German literature from the earliest times to the Reformation.

Prerequisite: GER 311 or GER 312 or GER 321 or GER 322 or GER 323 or GER 325 or GER 326 or GER 331 or GER 332 or GER 351 or GER 361

GER 406 Renaissance and Reformation (Credits: 4)

Representative German authors of the period.

Prerequisite: GER 311 or GER 312 or GER 321 or GER 322 or GER 323 or GER 325 or GER 326 or GER 331 or GER 332 or GER 351 or GER 361

GER 410 Baroque German Literature (Credits: 4)

Representative German authors of the period.

Prerequisite: GER 311 or GER 312 or GER 321 or GER 322 or GER 323 or GER 325 or GER 326 or GER 331 or GER 332 or GER 351 or GER 361

GER 415 German Literature of the Eighteenth Century (Credits: 4)

Representative authors in Rococo, Enlightenment, and Storm and Stress.

Prerequisite: GER 311 or GER 312 or GER 321 or GER 322 or GER 323 or GER 325 or GER 326 or GER 331 or GER 332 or GER 351 or GER 361

GER 416 German Literature of the Eighteenth Century (Credits: 4)

Representative works of Goethe and Schiller.

Prerequisite: GER 311 or GER 312 or GER 321 or GER 322 or GER 323 or GER 325 or GER 326 or GER 331 or GER 332 or GER 351 or GER 361

GER 417 German Romanticism (Credits: 4)

Study of the romantic movement with representative works of Schlegel, Novalis, Wackenroder, Tieck, Eichendorff, Hoffmann, and others.

Prerequisite: GER 311 or GER 312 or GER 321 or GER 322 or GER 323 or GER 325 or GER 326 or GER 331 or GER 332 or GER 351 or GER 361

GER 418 Goethe's Faust (Credits: 4)

Intensive study of *Faust I* and *Faust II*.

Prerequisite: GER 311 or GER 312 or GER 321 or GER 322 or GER 323 or GER 325 or GER 326 or GER 331 or GER 332 or GER 351 or GER 361

GER 425 German Literature of the Nineteenth Century: Prose (Credits: 4)

Readings and reports in 19th-century literature. Representative works of Eichendorff, Hoffmann, Keller, Meyer, Storm, Fontane, and others. Prerequisite: GER 311 or GER 312 or GER 321 or GER 322 or GER 323 or GER 325 or GER 326 or GER 331 or GER 332 or GER 351 or GER 361

GER 426 German Literature of the Nineteenth Century: Drama (Credits: 4)

Readings and reports in 19th-century drama. Representative works of Tieck, Kleist, Grillparzer, Hebbel, Büchner, and others. Prerequisite: GER 311 or GER 312 or GER 321 or GER 322 or GER 323 or GER 325 or GER 326 or GER 331 or GER 332 or GER 351 or GER 361

GER 427 German Literature of the Nineteenth Century: Poetry (Credits: 4)

Readings and reports in 19th-century poetry. Representative works of Heine, Droste-Hulshoff, Mörike, Dehmel, Liliencron, and others. Prerequisite: GER 311 or GER 312 or GER 321 or GER 322 or GER 323 or GER 325 or GER 326 or GER 331 or GER 332 or GER 351 or GER 361

GER 431 German Literature of the Twentieth Century: Prose (Credits: 4)

Readings and reports in 20th-century prose. Representative works of Hesse, Mann, Kafka, and others. Prerequisite: GER 311 or GER 312 or GER 321 or GER 322 or GER 323 or GER 325 or GER 326 or GER 331 or GER 332 or GER 351 or GER 361

GER 432 German Literature of the Twentieth Century: Drama (Credits: 4)

Readings and reports in 20th-century drama. Representative works of Schnitzler, Hofmannsthal, Kaiser, Toller, Brecht, and others. Prerequisite: GER 311 or GER 312 or GER 321 or GER 322 or GER 323 or GER 325 or GER 326 or GER 331 or GER 332 or GER 351 or GER 361

GER 433 German Literature of the Twentieth Century: Poetry (Credits: 4)

Readings and reports in 20th-century poetry. Representative works of Rilke, George, Trakl, Benn, and others. Prerequisite: GER 311 or GER 312 or GER 321 or GER 322 or GER 323 or GER 325 or GER 326 or GER 331 or GER 332 or GER 351 or GER 361

GER 434 Thomas Mann (Credits: 4)

Studies of the writings of Thomas Mann. Prerequisite: GER 311 or GER 312 or GER 321 or GER 322 or GER 323 or GER 325 or GER 326 or GER 331 or GER 332 or GER 351 or GER 361

GER 450 Undergraduate Research in German (Credits: 1 to 4)

Topics vary. Prerequisite: GER 311 or GER 312 or GER 321 or GER 322 or GER 323 or GER 325 or GER 326 or GER 331 or GER 332 or GER 351 or GER 361

GER 481 Independent Reading for Advanced Students (Credits: 4)

Topics vary. Repeatable for up to 12 hours. Prerequisite: GER 311 or GER 312 or GER 321 or GER 322 or GER 323 or GER 325 or GER 326 or GER 331 or GER 332 or GER 351 or GER 361

Greek/GR**GR 101 Beginning Greek (Credits: 4)**

Essentials of the Greek language.

GR 102 Beginning Greek (Credits: 4)

Essentials of the Greek language. Prerequisite: GR 101

GR 103 Beginning Greek (Credits: 4)

Essentials of Greek language. Prerequisite: GR 102

GR 201 Intermediate Greek (Credits: 4)

Review of essentials and reading for comprehension in selected authors. Prerequisite: GR 103

GR 202 Intermediate Greek (Credits: 4)

Review of essentials and reading for comprehension in selected authors.

GR 351 Readings in Greek Drama (Credits: 4)

Aeschylus, Sophocles, Euripides, Aristophanes, and Menander. Study of at least one play in Greek. Topics include origin and development of tragedy, drama as a reflection of contemporary events, and development of new comedy. Prerequisite: GR 202

GR 353 Readings in Greek Poetry (Credits: 4)

Greek epic and lyric poetry: epics of Homer and Hesiod, the Homeric Hymns, the early lyric poets such as Archilochus and Sappho, and the Hellenistic poets. Topics for investigation include structure and technique of oral epic, the didactic tradition, lyric meters and diction, and the development of pastoral poetry. Prerequisite: GR 202

GR 399 Studies Selected Subjects (Credits: 1 to 4)

Problems, approaches, and topics in the field of Greek. Topics vary.

GR 451 Readings in Greek Philosophy (Credits: 4)

Plato, Aristotle, Epicurus, Epictetus, and Marcus Aurelius. Topics include pre-Socratics and the development of philosophical vocabulary, the sophistic movement, the Cynic tradition, and the development of popular philosophy. Titles vary. Prerequisite: GR 202

GR 453 Readings in Greek History and Biography (Credits: 4)

Herodotus, Thucydides, Xenophon, Polybius, and Plutarch. Topics for investigation include methods of composition, influences on historiography from the sophists and philosophers, the development of Greek historical writing, and supplemental evidence from inscriptions and nonliterary sources. Titles vary.

Prerequisite: GR 202

GR 455 Readings in Greek Politics and Political Theory (Credits: 4)

Lysias, Demosthenes, Isocrates, Old Oligarch, Plato, Xenophon, and Aristotle. Topics for investigation include development of political ideas and vocabulary, nonliterary sources for our knowledge of Greek civil life, and influences on Roman theories and practices.

Prerequisite: GR 202

GR 457 Readings in Greek Prose Narrative (Credits: 4)

Readings of Greek prose authors on topics such as the scientific or pseudoscientific writings of Hippocrates, Euclid, Archimedes, and Ptolemy; travel commentary of Strabo and Pausanias; essays of Athenaeus; and fiction of Lucian.

Prerequisite: GR 202

GR 481 Independent Reading (Credits: 1 to 4)

Topics vary.

Hebrew/HEB

HEB 100 Essentials of Hebrew (Credits: 3)

An introduction to the essential elements of the Hebrew Language, emphasizing skills needed to read and understand Biblical Hebrew. The relationship between Biblical and Modern Hebrew will also be explored.

Health Education/HED

HED 230 Personal Health (Credits: 4)

Discussions of personal health problems in adolescents through the lifespan including the six CDC risk areas of injuries, tobacco, alcohol, drug use, sexual behavior that leads to pregnancy, STDs, diet, and physical activity.

HED 231 Community Health (Credits: 4)

This course addresses the population-based aspects of health. Topics include epidemiology, assessing need, environmental and consumer health, at-risk populations and community-based agencies.

HED 331 Health Education for Early and Middle Childhood (Credits: 4)

Covers students pre-K through ninth grade.

Promoting positive lifestyles; the comprehensive school health program; planning, organizing, and evaluation of curriculum; goals and objectives for health teaching; teaching and learning plans; and controversial issues.

HED 332 Diverse Needs in Health (Credits: 4)

This course addresses the diverse needs of students related to health status and health education.

Topics include diabetes, asthma, grief, sexuality in individuals with disabilities, ESL, reading, and individualized education plans.

HED 333 Human Sexuality for Educators (Credits: 4)

This course develops a depth of sexuality knowledge and related teaching competencies of K-12 teachers. Emphasis is placed on adolescent and young adult sexuality and application of the National Health Education Standards.

HED 334 Health Behaviors (Credits: 4)

This course addresses the theories of health behavior and health behavior change. Students develop a theory-based logic map for one risk behavior.

HED 335 Health Communications (Credits: 4)

This course addresses step-by-step design, implementation, evaluation, and critique of communication programs designed to change health behavior. Students develop a theory-based health communications plan with communications products.

Prerequisite: HED 334 and EDT 280

HED 385 Foundations of Teaching Health I (Credits: 4)

This course introduces students to health education pedagogy, with an emphasis on the Centers for Disease Control and Prevention priority content areas, the National Health Education Standards, and the Coordinated School Health Program Model.

Prerequisite: HPR 245

HED 430 Health Promotion Planning and Evaluation (Credits: 4)

Discusses problems of chronic and communicable diseases, environmental health, world health, and the school and community agencies involved in their solutions through assessment, planning, implementing, and evaluating school health programs.

HED 432 Death, Loss and Grief (Credits: 3)

(Also listed as RHB 432.) Course in death, dying, and grieving for health educators who deal with grief and loss in situations such as death, dying, survivorship, children and loss, second marriages, suicide, and other events of trauma. (Previously listed as HPR 432.)

HED 485 Foundations of Teaching Health Education II (Credits: 4)

This culminating experience has students apply health education pedagogical skills through the development of a comprehensive health education unit and resource plan.

Prerequisite: HPR 245

Health/HLT**HLT 201 Human Expressions of Health (Credits: 4)**

An introduction to the aesthetic expressions of health reflecting cultural and spiritual concerns.

HLT 202 Eastern Influences-West Health (Credits: 4)

An exploration of the cultures of the Eastern world and their influence on health care practices in the west.

HLT 203 The Languages of Health Data (Credits: 4)

An introduction to the mathematical, social, political, financial, and cultural influences on communication regarding health.

HLT 416 Special Topics in Health (Credits: 1 to 4)

Topics vary. Specific titles announced in quarterly class schedule. May be taken for a letter grade or pass/unsatisfactory.

Health, Physical Education, and Recreation/HPR**HPR 100 Physical Education: Beginning (Credits: 1 to 2)**

Fundamental skills and knowledge of one particular activity. Competency-based approach. Includes courses for disabled students. Students should check competency levels posted in physical education building before enrolling.

HPR 101 Physical Education: Intermediate (Credits: 2)

Intermediate level of skills and knowledge in one particular activity. Competency-based approach. Students should check competency levels posted in physical education building before enrolling.

HPR 102 Physical Education: Advanced (Credits: 3)

Advanced level of skills and knowledge in one particular activity. Competency-based approach. Includes courses in life saving and water safety instruction. Students should check competency levels in Physical Education office.

HPR 200 Teaching (Sport) (Credits: 1 to 3)

Develop methods of teaching fundamental skills and knowledge of a particular sports activity. Emphasizes a variety of teaching skills and classroom management techniques.

HPR 201 Team Sports for Majors (Credits: 4)

This activity class is for HPR majors and models best teaching practices in team sports such as basketball, soccer, softball, and volleyball. Students are required to demonstrate proficiency in sports skills.

HPR 202 Fundamental Activities for Majors (Credits: 4)

This activity class is for HPR majors and models best teaching practices in activities such as dance, fitness, and tumbling. Students are required to demonstrate proficiency in fundamental activity skills.

HPR 203 Leisure Activities for Majors (Credits: 4)

This activity class is for HPR majors and models best teaching practices in leisure activities such as badminton, golf, tennis and yoga. Students are required to demonstrate proficiency in leisure activity skills.

HPR 212 Adapted Phys Ed and Recreation (Credits: 4)

Provides an overview of the etiological, physical, and psychological considerations of disabilities. Methods of adapting activities and supervised field experiences in physical education for individuals with disabilities.

HPR 213 Teaching Adapted Aquatics (Credits: 3)

Red Cross certification course in adapted aquatics. Concepts are given regarding teaching techniques, disabilities, and basic rescues specific to the population involved. Includes in class field/clinical experience.

Prerequisite: HPR 212

HPR 214 Adapted Physical Activity (Credits: 3)

Rules and certification requirements of the various athletic opportunities for exceptional populations. Includes discussions of adaptive devices and special facilities used for these programs.

Prerequisite: HPR 212

HPR 220 Fundamental Movements (Credits: 3)

Examination of basic content areas of physical education for grades K–6. Includes motor activities that aid the elementary-age child in developing fundamental movements and sports skills. Students must demonstrate cognitive and psychomotor abilities.

HPR 241 Introduction to Health Education and Physical Education (Credits: 4)

This course introduces students to the professional programs in health education and physical education. Emphasis is placed on licensure requirements, history, philosophical foundations, and national standards.

HPR 243 Motor Development (Credits: 4)

Examination of motor skills used by young children to develop a foundation of fundamental movement patterns and skills. Several basic skills are defined and illustrated.

HPR 244 Motor Learning (Credits: 4)

Studies of the theories of learning in relation to the acquisition of motor skills and the relationship of psychology to motor skills learning.

HPR 245 HPR Checkpoint 1 Seminar (Credits: 1)

This course monitors students to the WSU Health Education and Physical Education Programs of Study.

HPR 250 Basics—Anatomy and Physiology I (Credits: 4)

A study of anatomy and physiology correlating both structure and function of the human body. Topics include organization, skeletal system, muscular system, nervous system, circulatory system, and endocrine system.

HPR 251 Basics—Anatomy and Physiology II (Credits: 4)

A continuation of HPR 250. Topics include respiration, exercise, digestion, metabolism, urinary system, acid base balance, reproduction, and immune system.

HPR 260 First Aid (Credits: 3)

Standard Red Cross first aid course. Comprehensive study of first aid techniques and procedures in emergency treatment.

HPR 261 Athletic Training (Credits: 4)

Introductory course in the field of athletic training and sports medicine pertinent to health and physical education.

HPR 281 Physical Education—Early and Middle Childhood (Credits: 4)

Curriculum teaching methods and materials in physical education for early and middle childhood (ages 3–14). Emphasis on goals of effective programs, activity for optimal growth development, content areas, and principles for teaching motor skills.

HPR 284 Practicum in Health, Physical Education and Recreation (Credits: 1 to 15)

Supervised field work for sophomore students who are seeking certification or a concentration in a specific area. Titles vary. Contact hours vary according to subject. May be taken for a letter grade or pass/unsatisfactory.

HPR 311 Psychomotor Assessment of Exceptional Children (Credits: 4)

Emphasis on developing knowledge and skill in diagnosing motor, physical, and sensory deficiencies in exceptional children. Administrative procedures and interpretation of numerous assessment instruments are covered.

HPR 312 Motor Skills-Individuals w/Multiple Disabilities (Credits: 3)

Sensory-motor skill development of individuals as it relates to perceptual enhancement, IFSP and IEP development, mobility skills, and vocational fitness from early childhood to adulthood. Intended for students in adapted physical education, early childhood education, special education, and related disciplines.

HPR 340 Organization and Administration of Health, Physical Education, Recreation, and Athletic Programs (Credits: 3)

Organizational techniques, administrative procedures, and principles of managing school health education, physical education, recreation, and athletic programs. Includes scheduling, facilities, personnel, programs of instruction, and public relations.

Prerequisite: HPR 241

HPR 345 HPR Checkpoint 2 Seminar (Credits: 1)

This course monitors students' progress in Health Education and Physical Education and prepares them to enter the pedagogical portion of their program of study.

Prerequisite: HED 230 and HED 231 and HPR 200 and HPR 201 and HPR 202 and HPR 203 and HPR 212 and HPR 241 and HPR 243 and HPR 244 and HPR 245 and HPR 250 and HPR 251

HPR 353 Kinesiology (Credits: 4)

Analysis of muscular interrelationships in basic body movement and principles of mechanics as they relate to fundamental and complex motor skills in physical education activities.

Prerequisite: HPR 250 and HPR 251

HPR 354 Psychology of Sport (Credits: 3)

Provides information to help the prospective teacher, coach, or sports medicine professional to effectively apply behavioral science principles to the performance aspects of sport and human movement.

HPR 355 Applied Exercise Physiology (Credits: 4)

Practical applications in exercise physiology for the physical educator, coach, and athletic trainer. Methods of conditioning, training, implementation, and other special considerations included.

Prerequisite: HPR 250 and HPR 251

HPR 356 Research Measurement and Evaluation in Health Education and Physical Education (Credits: 4)

Introduces students to the construction, evaluation, and interpretation of tests utilized in K-12 health and physical education. Emphasis is also placed on utilization of data to direct K-12 health education and physical education programming.

HPR 362 Nutrition for Fitness and Sport (Credits: 3)

Nutrient and food energy needs of the individual who is physically active during the life cycle. Tissue maintenance, growth and development, immune function, energy development, the food pyramid, and sound dietary practices are investigated.

HPR 384 Practicum in Health, Physical Education, and Recreation (Credits: 1 to 15)

Supervised field work for junior students seeking certification or a concentration in a specific area. Topics vary. Contact hours vary according to subject. May be taken for letter grade or pass/unsatisfactory.

HPR 385 Foundations of Teaching Physical Education (Credits: 4)

This course introduces students to physical education pedagogy with an emphasis on the Praxis III model; evaluation of existing physical education curricula; National Standards for Physical Education; and the components of a unit plan.

Prerequisite: HPR 245

HPR 430 Coaching Theory (Credits: 1 to 3)

Theory, methods, skills, strategies, organization, psychology, ethics, conditioning, and general aspects of teaching and coaching a particular sport. Typical sports covered include baseball, basketball, and soccer.

HPR 445 HPR Checkpoint 3 Seminar (Credits: 1)

This exit seminar requires candidates to demonstrate professional learned society competencies and their ability to impact student learning.

Prerequisite: HED 385 and HED 485 and HPR 345 and HPR 385 and HPR 485

HPR 484 Practicum in Health, Physical Education and Recreation (Credits: 1 to 15)

Supervised field work for senior students seeking certification or a concentration in a specific area.

Titles vary. Contact hours vary according to subject. May be taken for letter grade or pass/unsatisfactory.

HPR 485 Foundations of Teaching Physical Education II (Credits: 4)

This culminating experience has students apply physical education pedagogical skills through the development of a comprehensive physical education unit and resource plan.

Prerequisite: HPR 245

HPR 488 Independent Study (Credits: 1 to 6)

Independent reading, writing, and/or reporting in areas related to health, physical education, or recreation. Topics vary.

HPR 489 Workshop in Health, Physical Education and Recreation (Credits: 1 to 6)

Intensive study of content, curriculum, method, or materials designed to meet the needs of pre-service and in-service professionals in health, physical education, and recreation. Titles vary.

History/HST

HST 101 Ancient and Medieval Europe (Credits: 4)

Examination of the character of the pre-modern world from prehistory through the 14th century with special attention to those aspects of ancient and medieval life that had the greatest effect on the development of Western society, politics, and culture.

HST 102 Early Modern Europe: The 14th to 18th Centuries (Credits: 4)

Examination of the roots of the modern Western world emphasizing the revolution in economic, political, religious, and demographic realities that occurred between the 14th and 18th centuries.

HST 103 Modern Europe: The 19th and 20th Centuries (Credits: 4)

Examination of the nature and consequences of modernization, its failures, accomplishments, and problems with special attention to the phenomena that shaped the Western world of the 19th and 20th centuries.

HST 200 Western Europe and Non-Western World (Credits: 4)

This course examines the social, cultural, economic, religious and/or political interactions between Western Europe and the non-Western World since 1500. Topics vary.

HST 211 American Civilization to 1877 (Credits: 4)

Thematic survey of events, forces, groups, and individuals that contributed to and helped to shape an American civilization on the North American continent. Colonial foundations to 1877.

HST 212 American Civilization Since 1877 (Credits: 4)

Thematic survey of events, forces, groups, and individuals that contributed to and helped to shape an American civilization on the North American continent. 1877 to the present.

HST 214 African-American History (Credits: 4)

Survey of black people in American society from colonial slave trade to the present. African roots to 1877.

HST 215 Survey of Black People in American Society from Reconstruction to the Present (Credits: 4)

Survey of black people in American society from colonial slave trade to the present. Reconstruction to the present.

HST 217 Ohio History (Credits: 4)

Survey of Ohio History from its Native-American origins to Ohio in the Post-Industrial Age.

HST 220 Introduction to Gender History: Special Topics (Credits: 4)

Courses will survey special topics in gender history, such as masculinity, femininity, sexuality, family, and women's history. Focus may be on one nation, region, or a comparative perspective.

HST 221 American Diversities (Credits: 4)

Examines differences that have shaped American life and the ways in which Americans have responded to diversity. Topics may include ethnicity, race, region, religion, gender, sexual orientation, economic and social class, and political ideology.

HST 400 Historiography (Credits: 4 to 12)

May range from library research to field training.

HST 401 Research Seminar (Credits: 4)

Students will learn to use various tools and techniques to prepare a significant research paper in conformity with contemporary standards and will share their work in a seminar setting.

HST 402 History Honors Project (Credits: 4 to 12)

Examination of the various policies of the Latin American nations towards their neighbors, the areas of tensions which have developed, and the attempts at solution, from the period of the wars for independence to the present.
Prerequisite: UH 400

HST 405 Ancient History (Credits: 4)

Courses offered under this number examine selected problems in Roman history to the death of Constantine in A.D. 337. Topics vary.

HST 410 The Middle Ages (Credits: 4)

Studies the decline of the Roman Empire to ca. 1450. Topics vary and can include European, Islamic, and Byzantine civilizations.

HST 415 Medieval and Early Modern European History (Credits: 4)

Examines selected problems in European history from the late Middle Ages through the Counter-Reformation. Topics include the Renaissance and Reformation.

HST 425 Modern European History (Credits: 4)

Examines a variety of countries, topics and periods in European history from the Enlightenment to the present. Titles vary.

HST 435 British History (Credits: 4)

Courses offered under this number examine particular periods of British history (e.g., modern Britain) or topics (e.g., British constitutional history). Topics vary.

HST 440 Topics in African History (Credits: 4)

Variable titles covering a range of topics from pre-colonial to post-colonial Africa in the 20th century. Can be taken up to four (4) additional times (20 hours total) under variable titles.

HST 445 Middle Eastern History (Credits: 4)

Courses offered under this number examine the Balkans and the Middle East from the Middle Ages to the present. Topics may include Byzantine history, the Crusades, and the Middle East today. Topics vary.

HST 455 Latin American History (Credits: 4)

Courses offered under this number examine selected Latin American nations (e.g., Mexico), particular topics (e.g., Authoritarianism), and Colonial Latin America. Titles vary.

HST 465 Asian History (Credits: 4)

Examines various periods of Chinese, Japanese, and other East Asian histories or special topics.

HST 470 Early American History (Credits: 4)

Examines Colonial, Revolutionary, and early Republic periods of American history. Topics vary.

HST 475 19th Century United States History (Credits: 4)

Courses offered under this number examine distinct periods in the 19th century (e.g., Civil War and reconstruction) and major topics such as slavery. Topics vary.

HST 480 20th Century United States History (Credits: 4)

Courses offered under this number examine particular stages of the 20th-century American experience (e.g., the Progressive Era) or selected topics (e.g., the Civil Rights Movement). Topics vary.

HST 485 US Foreign Relations from 1914 (Credits: 4)

Courses offered under this number allow intensive analysis of topics drawn from the entire range of the American experience such as religion, diplomacy, women, immigration, and urbanization. Topics vary.

HST 486 Gender History: Special Topics (Credits: 4)

Courses will allow intensive analysis of subjects in gender history. Topics may include masculinity, femininity, sexuality, family and women's history. Focus may be on one nation, region or comparative perspective. May be taken more than once for credit under different titles. Also listed as WMS 400.

HST 488 History and New Media (Credits: 4)

Examines the impact of new media on access to primary sources, public programs, history education, scholarship, and the ways in which historians engage with each other. Presents productions in a variety of media.

HST 490 Topics: African-American Hst (Credits: 4)

Examines topics drawing from the African-American experience; may include black ideology and leadership, racial tension in urban society, and the civil rights movement. Topics vary.
Prerequisite: HST 211 and HST 212 or HST 214 and HST 215

HST 491 Independent Readings (Credits: 1 to 4)

Faculty-directed readings in a field of students' choice.

HST 495 Comparative History (Credits: 4)

Courses offered under this number compare developments or movements in different parts of the world and/or different times in history such as revolutions, slave systems, religious movements, or other human experiences that transcend a particular time or place. Topics vary.

International Business/IB

IB 201 International Business and Trade (Credits: 4)

Survey of international business and trade functions and processes. The course is designated to familiarize individuals with fundamental principles and practices of international trade management. Open only to non-business majors.

IB 477 Independent Study in International Business (Credits: 1 to 4)

Reading or research in a select field of International Business. Topics vary.

IB 478 Hon: Independent Study in IB (Credits: 2 to 8)

Research in International Business for fulfillment of the honors program project requirement.

IB 480 Special Topics in International Business (Credits: 1 to 6)

Reading or research in a select field of international business. Topics vary. Enrollment restriction: instructor permission only.

IB 481 International Trade Internship (Credits: 1 to 6)

Practical application in international trade. Integrates academic learning with work experiences. Students apply classroom learning in an organizational setting. Limited to international business majors with senior status.

IB 482 Doing Business in the European Union (Credits: 4)

This course studies, in both English and French, fundamental concepts of doing business, managing, and marketing in the European Union. Examines cultural, institutional, behavioral, and management systems and their operations in the EU.

Prerequisite: FR 325 and IB 201 or EC 320 or EC 435

IB 483 Doing Business in Latin America (Credits: 4)

This course studies, in both English and Spanish, fundamental concepts of doing business, managing, marketing in Latin America. Examines cultural, institutional, behavioral, and management systems and their operation in Latin America.

Prerequisite: SPN 325 and IB 201 or EC 320 or EC 435

IB 486 International Trade Management (Credits: 4)

Overview and application of the concepts and principles required to conduct import and export operations within the firm. Students will prepare an international trade plan.

Prerequisite: MGT 302 and MKT 302 and FIN 302

IB 496 International Trade Consulting (Credits: 4)

This course provides students with the opportunity to consult for small and medium sized companies on international business and trade problems. May be used to satisfy the IB major internship requirement.

Prerequisite: IB 486

Industrial and Systems Engineering/ISE

ISE 195 Fundamentals of Industrial and Systems Engineering (Credits: 2)

Provides students with an overview of how engineers design, develop, implement, and improve integrated systems that include people, materials, information, equipment, and energy. (Previously listed as HFE 195.)

ISE 210 Engineering Perspectives (Credits: 4)

Explores engineering history and cultures; discusses ethical aspects of professional engineering decisions as they affect the environment and society; introduces graphical presentation software, electronic spreadsheets, statistics, and other analytical tools for solving engineering problems.

ISE 300 Honors Program Seminar (Credits: 0)

An orientation course intended for juniors who have demonstrated exceptional academic ability and desire to conduct meaningful independent research or solve unique engineering design projects during their senior year. Meets 5 times during quarter.

ISE 301 Statistical Methods for Testing, Development and Manufacturing I (Credits: 4)

Presentation of statistical techniques as applied to engineering testing, development, and manufacturing. Introduces and applies probability distributions, measures of association, inferences on responses, and basic experimental design. Emphasizes application of statistical tools.

Prerequisite: MTH 230

ISE 302 Statistical Methods for Testing, Development and Manufacturing II (Credits: 4)

Continuation of ISE 301. Focus on analysis techniques for multiple variables, including ANOVA and multiple regression, as applied to engineering testing, development, and manufacturing. Process analysis and improvement techniques presented, along with tools for reliability analysis.

Prerequisite: ISE 301

ISE 405 Innovation and Entrepreneurship Seminar Series (Credits: 1)

Seminars meet once a week. Guest lecturers from high-tech companies provide insight on entrepreneurship and innovation. Students gain an understanding of the associated challenges, as well as the resources available within the community.

ISE 406 Human Factors in Engineering and Design (Credits: 4)

Introduction to the study of human factors in the design and operation of machine systems.

Prerequisite: PSY 105

ISE 407 Industrial Ergonomics (Credits: 4)

Introduction to the application of ergonomic principles to the industrial environment. Includes ergonomic planning and implementation, the work environment, NIOSH work factors, and workstation and equipment design.

Prerequisite: ISE 301

ISE 431 Human Factors Engineering of Visual Displays (Credits: 4)

Introduction to the design of visual display systems. Topics include radiometry and photometry, visual perception, linear systems analysis, color displays, colorimetry, three-dimensional displays, standards, and guidelines.

Prerequisite: ISE 406 and EE 321

ISE 450 Human Factors Engineering Analysis Methods (Credits: 3)

Provides human factors engineering students access to a variety of engineering and behavioral analytic techniques critical to the study of work performance.

Prerequisite: PSY 105 and PSY 110 and STT 360

ISE 451 Industrial and Systems Engineering in Computer Systems Design (Credits: 4)

Theoretical paradigms in human-computer interaction and their application to interface design are examined. Emphasis is on advanced interface technologies, such as multimodal input/output, hypertext, and knowledge-based systems.

Prerequisite: CEG 220 and ISE 301

ISE 456 Human Factors Engineering Laboratory (Credits: 2)

A stand alone laboratory course structured to expose students to equipment and procedures used in human factors engineering research and design.

Prerequisite: HFE 307 or ISE 307

ISE 465 Interactive Systems Modeling, Analysis and Design (Credits: 4)

(Also listed as CEG 465.) Provide students experience in interactive real-time simulation, design, and implementation and evaluation of interfaces to simulations. The relevant topics are explored through application in supervisory control of complex, dynamic systems.

Prerequisite: CEG 220 or CEG 221 or CS 241 or CS 242

ISE 470 Deterministic Operations Research Models (Credits: 4)

Introductory course on deterministic models in operation research and their applications in industrial and systems engineering. Students will formulate appropriate models, and obtain and interpret analytical results in the context of ISE problems.

Prerequisite: MTH 235 and MTH 230

ISE 471 Systems Performance Modeling (Credits: 4)

Study of quantitative techniques to analyze and predict systems performance. Topics include queuing models, system simulation, model validation, data collection, quantitative analysis of system performance, and system design evaluation.

Prerequisite: ISE 302

ISE 472 Design I (Credits: 3)

Segment one of the ISE senior design sequence. Introduction to patents and engineering ethics included. Practicum results in the definition of the capstone design project to be completed in ISE 473 and ISE 474.

Prerequisite: ISE 471

ISE 473 Design II (Credits: 3)

Segment two of the ISE senior design sequence. Enables students to make use of design and analytical tools for a realistic problem.

Prerequisite: ISE 472

ISE 474 Design III (Credits: 3)

Segment three of the ISE senior design sequence. Practicum results in the final engineering design and completion of the design project.

Prerequisite: ISE 473

ISE 476 Aerospace Human Factors (Credits: 4)

Application of human factors engineering concepts to aerospace systems design. Develops human factors engineering influence on aerospace system dynamics, structure, and control as well as impact on reliability and maintainability.

Prerequisite: HFE 471 or ISE 471

ISE 477 Systems and Process Analysis (Credits: 4)

Explores engineering management practices including basic problem formulation, process analysis, and system improvement using modern software application programs for flow charting, process mapping, activity modeling, critical path analysis, and program evaluation review techniques.

Prerequisite: ISE 301 and ISE 471

ISE 478 Computational Models for ISE (Credits: 4)

Design and implement ISE-focused decision support systems built on existing user interface and computational modules. Applications of linear programming, discrete event simulation, and operations research methods in decision support roles.

Prerequisite: CEG 200 and ISE 301 and ISE 470

ISE 480 Engineering in Occupational Safety and Health (Credits: 4)

Discusses and demonstrates the role and responsibility of engineers in occupational safety and health related issues. Focuses on the applications of human factors engineering design principles as a proactive approach for controlling occupational injuries.

Prerequisite: ISE 406

ISE 481 Engineering Economy (Credits: 4)

Introduction to analytical methods and techniques for optimizing the economic outcome of technical and managerial decisions. Includes time value of money, annual costs, present worth, future value, capitalized cost break-even analysis, and valuation and depreciation.

Prerequisite: MTH 229 or EGR 101

ISE 482 Operations and Facilities Design (Credits: 4)

Provides a fundamental understanding of techniques for the layout and organization of operations in modern production and service facilities.

Prerequisite: ISE 470

ISE 483 Integrated Systems for Manufacturing (Credits: 4)

Explores industrial engineering concepts and quantitative techniques as it applies to manufacturing planning and control systems. Discusses production and service industries as well as supply chain systems.

Prerequisite: MTH 231 and ISE 301 and ISE 470 and ISE 471

ISE 484 Probabilistic Methods in Operations Research (Credits: 4)

Provide an in-depth coverage of theory and methods to the analysis and design of probabilistic systems. Topics include conditional probability, Markov chains, and queuing theory.

Prerequisite: ISE 301

ISE 485 Six Sigma for Engineers (Credits: 4)

The course introduces students to the practical application of Six Sigma tools in manufacturing and service projects. The course also includes videotapes and case studies of real-world industrial operations.

Prerequisite: ISE 301

ISE 490 Technology-Based Ventures (Credits: 4)

Train students on methods to develop breakthrough products with an entrepreneurial perspective and managerial outlook. Topics include advanced product development, protecting intellectual property, fostering strategic and creative thinking, effectively leading technology-driven teams.

ISE 499 Special Problems in Industrial and Systems Engineering (Credits: 1 to 5)

Special topics in human factors engineering. Topics vary. (Previously listed as HFE 499.)

Information Technology/IT**IT 101 Graphic Terminology/Design Concepts (Credits: 3)**

Desktop publishing and graphic terminology used in today's graphics communications will be explored as well as principles of design in printed media. Trends, history and ethics are studies through print media.

IT 121 Beginning Photography (Credits: 3)

Introduction to the fundamentals and basic terminology of photography. The student will learn proper photography techniques including posing subjects and using photo editing software to enhance photography. Two hours lecture/two hours lab.

IT 122 Intermediate Photography (Credits: 3)

Continuation of IT 121. Intermediate photography techniques and terminology. The students will acquire skills in photography layout and design using various photo editing software packages. Two hours lecture/two hours lab.

IT 130 Art In Graphic Design (Credits: 3)

Exploration of how art applications relate to graphic design. Application of design principles including organization and art techniques will be covered.

IT 140 Typography I (Credits: 3)

Introduction to the fundamentals of typography as an element and tool of visual communication. Students will learn how fonts work in relation to various software programs to produce creative and marketable typographic design. 1 hours lecture/2 hours lab.

IT 141 Typography II (Credits: 3)

Continuation of IT 140. Emphasis on advanced type techniques and formatting. Students will learn design-applying concepts in advanced font and design projects. Two hours lecture/two hours lab.

IT 160 Principles of Color Theory (Credits: 3)

Fundamentals of digital output, development of color separations, media and printing techniques emphasizing the manufacturing processes. A basic course in color and its relationship to computer graphic design and printed materials.

IT 201 Photoshop I (Credits: 3)

An introduction to computer imaging and photo manipulation using raster-based Photoshop software. Filters and text will be explored. Two hours lecture/two hours lab.

IT 202 Photoshop II (Credits: 3)

An intermediate computer course in imaging and photo manipulation. Students will use Adobe Photoshop to create original graphics and modify existing images. Two hours lecture/two hours lab.

IT 210 Graphics I (Credits: 3)

An introduction to the tools, palettes and features in the Adobe InDesign software. Students will use these features, along with previously learned design skills in working with objects. Two hours lecture/two hours lab.

IT 211 Graphics II (Credits: 3)

Demonstration of basic to intermediate drawing techniques using Adobe Illustrator software. Students will apply previous design and color theory knowledge in the development of illustrations.

IT 220 Web Theory and Design I (Credits: 3)

Introductory course to web authoring and programming using basic HTML authoring tools as well as Microsoft FrontPage software. Two hours lecture/two hours lab.

IT 221 Web Theory and Design II (Credits: 3)

Focus on the exploration of additional web design software. Production will move beyond the basics, adding form objects and other enhancements using Macromedia Dreamweaver web design software. Two hours lecture/two hours lab.

IT 222 Web Design and Theory III (Credits: 3)

Construction of a comprehensive web site using various applied techniques and applications utilizing various software packages. Two hours lecture/two hours lab.

IT 230 E-Commerce/Advertising (Credits: 3)

Techniques and strategies used in advertising and e-commerce will be explored and utilized in design applications in relation to graphic design. Two hours lecture/two hours lab.

IT 250 Advertising Software Exploration (Credits: 3)

Exploration of industry leading web and graphic software. Topics to be covered will vary based on current industry needs and current software in the market. Two hours lecture/two hours lab.

IT 270 Capstone Project (Credits: 3)

Capstone project. This course will allow the student to complete a comprehensive project in graphic design or web page development utilizing the variety of software packages covered during the two-year degree program.

IT 295 Independent Study (Credits: 1 to 4)

Directed study on selected topics.

IT 299 Internship (Credits: 4)

This course will allow the student to complete an internship at an approved site utilizing acquired graphic and web development packages and skills. Sophomore standing.

Italian/ITA

ITA 101 First-Year Italian (Credits: 4)

Study of the vocabulary and structure of the Italian language; practice in conversation, reading, and writing.

ITA 102 First-Year Italian (Credits: 4)

Study of the vocabulary and structure of the Italian language; practice in conversation, reading, and writing.

Prerequisite: ITA 101

ITA 103 First-Year Italian (Credits: 4)

Study of the vocabulary and structure of the Italian language; practice in conversation, reading, and writing.

Prerequisite: ITA 102

ITA 111 Essentials of Italian (Credits: 4)

Introduction to Italian with emphasis on speaking the language.

ITA 112 Essentials of Italian (Credits: 4)

Introduction to Italian with an emphasis on speaking the language. May be taken for a letter grade or pass unsatisfactory.

Prerequisite: ITA 111

ITA 201 Second-Year Italian (Credits: 4)

Continued study of the Italian language with practice in speaking, reading, and writing. 201 and 202 must be taken in sequence.

Prerequisite: ITA 103

ITA 202 Second-Year Italian (Credits: 4)

Continued study of the Italian language with practice in speaking, reading, and writing.

Prerequisite: ITA 201

ITA 203 Second Year Italian (Credits: 4)

Continued study of the Italian language with practice in listening, speaking, reading and writing.

Prerequisite: ITA 202

Japanese/JPN

JPN 101 First Year Japanese (Credits: 4)

Study of the vocabulary and structure of the Japanese language; practice in conversation, reading, and writing.

JPN 102 First Year Japanese (Credits: 4)

Study of the vocabulary and structure of the Japanese language; practice in conversation, reading, and writing.

Prerequisite: JPN 101

JPN 103 First Year Japanese (Credits: 4)

Study of the vocabulary and structure of the Japanese language; practice in conversation, reading, and writing.

Prerequisite: JPN 102

290 Course Descriptions

JPN 111 Essentials of Japanese (Credits: 4)

Introduction to Japanese with emphasis on speaking the language.

JPN 201 Second Year Japanese (Credits: 4)

Continued study of the Japanese language with practice in speaking, reading, and writing.
Prerequisite: JPN 103

JPN 202 Second Year Japanese (Credits: 4)

Continued study of the Japanese language with practice in speaking, reading, and writing.
Prerequisite: JPN 201

JPN 203 Second Year Japanese (Credits: 4)

Continued study of the Japanese language, with practice in listening, speaking, reading and writing.
Prerequisite: JPN 202

Liberal Arts/LA

LA 101 Introduction to Liberal Arts (Credits: 2)

Introduces liberal arts with an overview of program and career opportunities. Includes strategies for achieving academic success through time management, communication skills, note taking, test study, test taking, and enrichment opportunities.

LA 199 Great Decisions (Credits: 1 to 2)

Faculty-led reading and discussion group centering on major foreign policy issues facing the United States. Topics vary.

LA 201 Effective Career Planning (Credits: 2)

Assists students in developing academic major and career goals through identifying skills and interests and then researching appropriate options.

LA 203 Sophomore Cooperative Education (Credits: 2)

Work experience in a liberal arts discipline. Faculty supervise and evaluate learning that requires planned and approved learning objectives, oral and/or written reports, employer evaluation, and conference with faculty supervisor. May be repeated three times.

LA 205 Sophomore Cooperative Education (Credits: 4)

Work experience in a liberal arts discipline. Faculty supervise and evaluate learning that requires planned and approved learning objectives, oral and/or written reports, employer evaluation, and conference with faculty supervisor. May be repeated twice.

LA 303 Junior Cooperative Education (Credits: 2)

Work experience in a liberal arts discipline. Faculty supervise and evaluate learning that requires planned and approved learning objectives, oral and/or written reports, employer evaluation, and conference with faculty supervisor. May be repeated three times.

LA 305 Junior Cooperative Education (Credits: 4)

Work experience in a liberal arts discipline. Faculty supervise and evaluate learning that requires planned and approved learning objectives, oral and/or written reports, employer evaluation, and conference with faculty supervisor. May be repeated three times.

LA 399 Studies in Selected Subjects (Credits: 4)

Work experience in a liberal arts discipline. Faculty supervise and evaluate learning that requires planned and approved learning objectives, oral and/or written reports, employer evaluation, and conference with faculty supervisor. May be repeated three times.

LA 401 Implementing Career Decisions (Credits: 2)

Assists students in their career/job search. Through research, analysis, and structured exercises, the participants learn effective job-seeking skills. Final results for students should include discovering, exploring, and locating satisfying job situations.

LA 403 Senior Cooperative Education (Credits: 2)

Work experience in a liberal arts discipline. Faculty supervise and evaluate learning that requires planned and approved learning objectives, oral and/or written reports, employer evaluation, and conference with faculty supervisor. May be repeated three times.

LA 405 Senior Cooperative Education (Credits: 4)

Work experience in a liberal arts discipline. Faculty supervise and evaluate learning that requires planned and approved learning objectives, oral and/or written reports, employer evaluation, and conference with faculty supervisor. May be repeated twice. Prerequisite: full-time work experience.

LA 490 Senior Project-Selected Studies (Credits: 1 to 6)

Intensive studies or work in a selected topic.

Latin/LAT

LAT 101 Beginning Latin (Credits: 4)

Essentials of the Latin language.

LAT 102 Beginning Latin (Credits: 4)

Essentials of the Latin language.

LAT 103 Beginning Latin (Credits: 4)

Essentials of the Latin language.
Prerequisite: LAT 102

LAT 201 Intermediate Latin (Credits: 4)

Review of essentials and reading for comprehension in selected authors.
Prerequisite: LAT 103

LAT 202 Intermediate Latin (Credits: 4)

Review of essentials and reading for comprehension in selected authors.
Prerequisite: LAT 103

LAT 351 Readings in Roman Drama (Credits: 4)

Plautus, Terence, and Seneca. Study of at least one play in Latin. Topics include importance of Plautus and Terence for the reconstruction of Greek New Comedy, architecture of the Roman theatre, history of Roman tragedy, and the relationship of Seneca's tragedies to his Stoic philosophy.

Prerequisite: LAT 202

LAT 353 Readings in Roman Epic (Credits: 4)

Virgil's *Aeneid*, Ovid's *Metamorphoses*; Lucan, Statius, Valerius Flaccus, and Silius. Topics include intent and structure of the *Aeneid*, history and development of Roman epic, structure and transitional devices in the *Metamorphoses*, and the nature of rhetorical epic.

Prerequisite: LAT 202

LAT 355 Readings in Roman Poetry (Credits: 4)

Roman lyric and elegiac poetry: Virgil's *Eclogues*; Catullus, Horace, Propertius, Tibullus, and Ovid. Topics include meters and style of Latin lyric, amatory tradition, and the influence of Hellenistic poetry.

Prerequisite: LAT 202

LAT 357 Readings in Roman Satire (Credits: 4)

Horace, Juvenal, Persius, Petronius, and Martial. Topics include development of this peculiar Roman genre, fragments of Lucilius, satirical methods and techniques, satiric epigram, and satire as a source of information about Roman private life.

Prerequisite: LAT 202

LAT 399 Studies in Selected Subjects (Credits: 1 to 4)

Problems, approaches, and topics in the field of Latin. Topics vary.

LAT 451 Readings-Roman Didactic Lit (Credits: 4)

Study of Roman philosophical and didactic literature: Lucretius, Virgil's *Georgics*, Cicero's philosophical essays, and Quintilian. Topics include Roman attitudes toward Epicureanism, farming as a symbol of contemporary Roman politics, Cicero's synthesis of Greek philosophy, Quintilian, and a gentleman's education.

Prerequisite: LAT 202

LAT 453 Readings-Roman History and Biography (Credits: 4)

Sallust, Livy, Tacitus, and Suetonius. Topics include Roman historiographical tradition, family and political influences, evidence from nonliterary sources, and influence from Greek historiography.

Prerequisite: LAT 202

LAT 455 Readings-Roman Politics and Gov (Credits: 4)

Cicero's political essays and speeches; the letters of Cicero and Pliny. Topics include the nature of Roman political campaigns, selections from Roman constitutional law, information from inscriptions, and Augustus' *Res Gestae*.

Prerequisite: LAT 202

Business Law/LAW**LAW 300 Legal Environment of Business (Credits: 4)**

Legal environment in which business functions. Introduction to law and legal systems, civil law, and white-collar crime. Public law topics include government regulation. Private law topics include torts and contracts.

LAW 420 Legal Aspects of Managing a Diverse Workforce (Credits: 4)

U.S. and state employment discrimination law, court decisions, enforcement and workforce diversity.

LAW 440 Legal Aspects of Managing Employees (Credits: 4)

This course acquaints students with two major areas of study, employer and employee rights and responsibilities. Both are basic areas of common business knowledge required for effective human resource management within organizations.

Prerequisite: LAW 300

LAW 477 Special Studies (Credits: 1 to 4)

Reading or research in selected area of business law.

LAW 480 Special Topics in Law (Credits: 1 to 4)

Topics vary.

Linguistics/LI**LI 371 Introduction to Historical and Comparative Linguistics (Credits: 4)**

Principles of historical and comparative study of languages; introduction to Indo-European, Germanic, Romance, and Slavic philology.

LI 399 Studies in Selected Subjects (Credits: 1 to 4)

Deals with problems, approaches, and topics in the field of linguistics. Topics vary.

Microbiology and Immunology/M&I**M&I 220 Microbiology—Human Environment (Credits: 5)**

Biology of viruses, bacteria, fungi, protozoans, and helminths as related to their natural environments and host-parasite interaction. Introductory course for students in environmental health, nursing, and patient-oriented paramedical health professions. Four hours lecture, two hours lab.

Prerequisite: BIO 105 or BIO 107 or BIO 111

M&I 426 Immunology (Credits: 3)

This course covers the principles of basic immunology. Cellular and soluble factors associated with innate and adaptive immunities are included. Functions of phagocytes, natural killer (NK) cells, B cells, and T cells are examined. Prerequisite: BIO 312

M&I 427 Pathogenic Microbiology (Credits: 5)

Study of microorganisms pathogenic for humans and animals using the organ system approach with emphasis on mechanisms of pathogenesis and host resistance. Prerequisite: BIO 312 or M&I 220

M&I 431 Virology (Credits: 3)

Introduction to the field of virology; plant, animal, and bacterial viruses. Emphasis on the intrinsic properties of viruses and their interaction with cells, multiplication, genetics, and tumor induction. Prerequisite: BIO 212 and BIO 312

M&I 437 Recombinant DNA Methods Lab (Credits: 6)

Microbial and molecular techniques for producing, cloning and characterizing recombinant DNA molecules; laboratory exercises in gene manipulation to give an understanding of the principles of genetic engineering. Prerequisites: BIO 210 and BIO 211 and BIO 410

M&I 488 Independent Reading (Credits: 1 to 4)

Independent Reading

M&I 499 Special Problems—Microbiology (Credits: 1 to 4)

Special Problems in Microbiology

Mechanical and Materials Engineering/ME

ME 199 Fundamentals of Engineering Design (Credits: 3)

Introduction to the principles and practice of mechanical and materials engineering design. Fundamental design philosophy using a hands-on approach, including topics such as safety, ethics, and product liability. Teamwork and communication skills are stressed.

ME 201 Computer-Aided Drafting (Credits: 2)

Basic techniques of computer-aided engineering drawing. Graphic primitives, drawing, editing, dimensioning, multiple views, hatching, drawing intelligence, and three-dimensional modeling. One hour lecture, two hours lab. Prerequisite: ME 201L

ME 202 Engineering Graphics (Credits: 4)

Basic concepts of engineering drawing with applications to manual and computer-aided drafting: multiview projections; sectional, auxiliary, and pictorial views; dimensioning; and intersections and developments. Prerequisite: ME 201L

ME 212 Statics (Credits: 4)

Forces, resultants, components, equilibrium of particles, equilibrium of rigid bodies, centroids and centers of gravity, analysis of structures, friction, and moments of inertia. Prerequisite: MTH 231 or EGR 101 and PHY 240

ME 213 Dynamics (Credits: 4)

Vector treatment of the kinematics and kinetics of particles and rigid bodies, based on Newton's laws and including work-energy and impulse-momentum techniques. Prerequisite: EGR 153 and ME 212

ME 220 Manufacturing Process (Credits: 3)

Fundamentals of manufacturing processes, materials, measurement and quality assurance, casting processes, forming processes, material removal processes, joining processes, and other processes and techniques related to manufacturing.

ME 313 Strength of Materials (Credits: 5)

Discusses axial and shear stresses and strains, bi-axial loading, torsion of circular shafts, shear and bending moment diagrams, deflection of beams, and column theory. Four hours lecture, two hours lab. Prerequisite: EGR 153 and ME 212 and ME 313L

ME 314 Experimental Measurements and Instrumentation (Credits: 4)

Techniques, equipment and measurement procedures used by Mechanical Engineers. Writing lab reports, performing data acquisition, and applying statistics to experimental data.

ME 315 Thermodynamics I (Credits: 4)

Classical thermodynamics with applications of the first and second laws to engineering systems. Prerequisite: ME 213 and MTH 235 and EE 301

ME 316 Thermodynamics II (Credits: 4)

Concepts of availability and irreversibility, power and refrigeration cycles, thermodynamic relations, and mixtures and combustion. Three hours lecture, two hours lab. Prerequisite: ME 315 and ME 316L

ME 317 Fluid Dynamics (Credits: 4)

Study of fluid properties; fluid statics, one-dimensional compressible and incompressible flows; and flow of real fluids, flow measurement. Three hours lecture, two hours lab. Prerequisite: ME 213 and ME 315 and ME 317L

ME 318 Heat Transfer (Credits: 4)

Principles that govern heat transfer in solids, fluids, vacuum, and at interfaces of solids and fluids. Laboratory experiments to illustrate these phenomena. Three hours lecture, two hours lab.
Prerequisite: ME 317 and CS 316 and ME 318L

ME 360 System Dynamics (Credits: 4)

Introduces students to the system level modeling of dynamic engineering systems including, but not restricted to, linear and rotational mechanical, fluid, thermal, and electrical systems. Modeling of control devices (motors, heaters, pumps) is addressed.
Prerequisite: EE 301 and ME 213 and ME 313 and MTH 235 or ME 317

ME 370 Material Engineering Sci: Introduction (Credits: 4)

Effect of atomic, molecular, and crystalline structure on the properties of materials with emphasis on electronic materials and ceramics; characterization of materials; and device fabrication.
Prerequisite: CHM 121 and PHY 244

ME 371 Structure and Properties—Engineering Materials (Credits: 3)

Effect of microstructure, phase equilibrium, and processing on properties of structural materials including metallic alloys, polymers, and composites.
Prerequisite: ME 313 and ME 370

ME 375 Thermodynamics of Materials (Credits: 4)

Application of classical thermodynamics to engineering materials. Heats of formation and reaction; behavior of solutions; free energy concepts; thermodynamic fundamentals of phase equilibria.
Prerequisite: ME 315 and ME 371

ME 376 Physical Metallurgy (Credits: 3)

Fundamentals of structure property relations in metals and alloys related to transformations and kinetics. Application to recovery and recrystallization, solidification, precipitation strengthening, and displacive transformations.
Prerequisite: ME 375

ME 385 Metallography Laboratory (Credits: 2)

Preparation of metallographic specimens; use of the metallurgical microscope including the preparation of photomicrographs.
Prerequisite: ME 370

ME 386 Materials Testing Laboratory (Credits: 2)

Fundamentals of mechanical testing instrumentation and techniques including the tensile test, hardness tests, effect of heat-treatment on strength, and correlation of microstructure, composition, and properties.
Prerequisite: ME 385 and ME 371

ME 405 Kinematics and Design-Mechanism (Credits: 4)

Graphic, analytical, numerical, and symbolic techniques are used in the kinematic and dynamic analysis of machines. Computer-aided design of mechanisms is introduced. Emphasis on the application of these techniques to planar mechanisms.
Prerequisite: ME 213

ME 408 Design Optimization (Credits: 3)

Concepts of minima and maxima; linear, dynamic, integer, and nonlinear programming; variational methods. Engineering applications are emphasized.
Prerequisite: ME 213 and MTH 235 or MTH 253 and EE 301 and EE 302

ME 409 Aerospace Structures (Credits: 4)

Stress, deformation, and stability analysis of aerospace structures. Thin-walled members bending, torsion, and shear stresses calculation in multicell structures. Buckling of thin plates.
Prerequisite: ME 313

ME 412 Finite Element Analysis (Credits: 4)

Finite element formulations for line, surface, bending, torsion, and three dimensional elements. Numerical methods and application of FEM programs in structural design and solid mechanics.
Prerequisite: MTH 233 or MTH 235 and ME 313 and ME 412L

ME 414 Mechanical Design I (Credits: 4)

Fundamental concepts in design for static strength, fatigue, and impact loading; application to selected mechanical components and systems.
Prerequisite: ME 313

ME 415 Mechanical Design II (Credits: 4)

Design of mechanical elements such as springs, bearings, shafts, gears, clutches, brakes, and flywheels. Students conduct an individual design project.
Prerequisite: ME 414

ME 417 Mechanics of Viscous Fluids (Credits: 4)

Fundamental equations of viscous flow for laminar and turbulent flows. Boundary layer analysis. Analytical and numerical solutions of the equation of motion.
Prerequisite: ME 317

ME 418 Heat Conduction Solids (Credits: 3)

Analytical and numerical techniques for heat conduction problems in one, two, and three dimensions for steady and transient cases. Phase-change problems.
Prerequisite: ME 318

ME 423 Energy Conversion (Credits: 4)

Important new developments in energy conversion. Thermoelectric, photoelectric, thermionic, and electromechanical systems are studied.
Prerequisite: ME 315

ME 424 Solar Engineering (Credits: 4)

Fundamentals of solar radiation and how it can be utilized as an energy source. Flat plate collectors, concentrating collectors, solar hot water heating, photovoltaics and thermal energy storage will be discussed.

Prerequisite: ME 318

ME 430 Aeronautics (Credits: 2)

Aviation history. Standard atmosphere, basic aerodynamics, theory of lift, airplane performance, principles of stability and control, and astronautics and propulsion concepts.

Prerequisite: ME 213 and ME 315

ME 431 Aerospace Propulsion (Credits: 4)

Engine cycle analysis; combustion fundamentals; reciprocating engines, propellers; applications to turbojet, turbofan, turboprop, ramjet, SCRAM jet, and rocket engines.

Prerequisite: ME 317

ME 432 Flight Control Systems (Credits: 4)

Development of the equations for general aircraft motion. Perturbed state equations. Basic aerodynamic characteristics, control surface effectiveness, stability and control derivatives. Dynamic stability and control of the airplane. Automatic flight control.

Prerequisite: EE 413

ME 433 Compressible Fluid Flow (Credits: 4)

Fundamentals of gas flow in the subsonic to supersonic flow regimes. Wave propagation in compressible medium, one-dimensional isentropic flow with area change, frictional effects, heat transfer effects and two dimensional waves.

Prerequisite: ME 317

ME 434 Computational Fluid Dynamics (Credits: 4)

Introduction to CFD methods; governing equations, PDEs, finite difference numerical methods, stability analysis, incompressible and compressible flows, subsonic to supersonic flows.

Prerequisite: ME 317

ME 442 Vehicle Engineering (Credits: 3)

Develops student's abilities to derive and solve vehicle equations and introduces how dynamic analysis is used in vehicle design. Various performance criteria, control concepts, and HEVs will be studied.

Prerequisite: ME 213

ME 444 Principles of Internal Combustion Engines (Credits: 4)

Thermodynamics of I.C. engines, combustion thermodynamics, friction, heat and mass losses, and computer control of the modern fuel-injected I.C. engine.

Prerequisite: MTH 233 or MTH 235 and ME 316 and ME 317

ME 456 Introduction to Robotics (Credits: 4)

Introduction to the mathematics, programming, and control of robots. Topics include coordinate systems and transformations, manipulator kinematics and inverse kinematics, trajectory planning, Jacobians and control.

Prerequisite: MTH 253 or MTH 235 and ME 456L

ME 458 Instrumentation and Measurement (Credits: 4)

Develops understanding in measurements, conveys the principles and practice for design of systems including uncertainty and signal reconstruction, and establishes the physical principles and techniques used to measure those quantities most important for applications.

Prerequisite: EE 301

ME 460 Mechanical Vibrations (Credits: 4)

Modeling and analysis of single and multi-degree of freedom systems under free and forced vibration and impact, Lagrangian and matrix formulations, energy methods, and introduction to random vibrations.

Prerequisite: EE 321 and ME 213 and ME 460L

ME 464 Mechanical System Modeling and Design (Credits: 4)

This course will teach students how to model complex mechanical systems as a set of simple, linear or nonlinear components for the purpose of design. Students will be introduced to modern computational tools.

Prerequisite: ME 213

ME 470 Failure Analysis (Credits: 3)

Engineering aspects of failure analysis, failure mechanisms and related environmental factors, and analysis of actual service failure.

Prerequisite: ME 313 and ME 371

ME 471 Nondestructive Evaluation (Credits: 4)

Lectures will cover: principles and applications of eddy current techniques, wave propagation in guided wave modes, ultrasonics, acoustic emission, radiography, modeling and analysis, introduction to signal processing and specifications and standards.

Prerequisite: PHY 242 and PHY 244 and ME 376

ME 472 Structure and Properties—Engineering Polymers (Credits: 4)

This course introduces polymers as engineering materials and covers fundamental concepts in polymer science and engineering. This includes polymerization processes morphology and crystallinity, thermal transitions, viscoelasticity, rubber elasticity, aging and contemporary issues in polymers.

Prerequisite: ME 370

ME 474 Materials Selection for Mechanical Design (Credits: 4)

Principles of materials-limited design. Lectures, case histories, open-ended assignments and computer based materials selection tools. Procedures for selection of optimum material(s) under constraints resulting from functional, reliability, safety, cost and environmental issues. Prerequisite: ME 371 and ME 313

ME 475 High Temperature Materials (Credits: 3)

The design and use of high temperature super alloys, strengthening mechanisms, creep and fatigue, corrosion and oxidation, protective coatings, and alternative materials. Prerequisite: ME 376 and ME 477

ME 477 Mechanical Behavior—Materials (Credits: 4)

Crystal plasticity and single crystal behavior. Introduction to dislocation theory. Strengthening mechanisms and polycrystalline behavior. Introduction to viscoelasticity. Fracture, fatigue, and creep of materials. Prerequisite: ME 313 and ME 371

ME 478 X-Ray Spectral Analysis (Credits: 3)

Electron microprobe and X-ray fluorescence for analysis of alloys and other materials explained and demonstrated on examples. Two hours lecture, one hour lab. Prerequisite: ME 480 and ME 478L

ME 479 Materials Composition (Credits: 4)

(Also listed as CHM 479.) Survey of principles of corrosion processes with application to metallic and nonmetallic materials. Principles of electrochemistry are included. Prerequisite: ME 315 and ME 371 or CHM 453

ME 480 X-Ray Methods in Material Science (Credits: 4)

Introduction to the theory and practice of diffraction methods in the study of alloys, refractory materials, and polymers. Two hours lecture, four hours lab. Prerequisite: ME 376

ME 481 Materials Characterization (Credits: 4)

Principles of characterization of materials based on particle and wave taxonomies integrated with sensor methods and principles. Prerequisite: ME 371

ME 482 Intro-Transmission Electron Microscopy (Credits: 4)

Principles that govern image formation and electron diffraction of crystalline materials, laboratory demonstrations and experiments to illustrate the principles. Three hours lecture, one hour lab. Prerequisite: ME 371

ME 483 Introduction to Ceramics (Credits: 3)

Ceramic and refractory raw materials and products; atomic structure and bonding; structure of crystalline phases and glasses; structural imperfections; diffusion in oxides; phase equilibria; and processing of ceramics. Prerequisite: ME 375

ME 484 Physical Ceramics (Credits: 4)

Processing, microstructure, and properties of ceramics; defect equilibria in oxides; thermal, optical, electrical, and mechanical properties of ceramic materials; ceramics for special applications. Three hours lecture, two hours lab. Prerequisite: ME 483 and ME 484L

ME 485 Solidification Processing (Credits: 4)

Fundamentals of melt solidification, application to metals casting technology, and an introduction to powder metallurgy. Three hours lecture, two hours lab. Prerequisite: ME 375 and ME 485L

ME 486 Deformation Processing (Credits: 4)

Fundamentals of principal deformation processing systems including forging, extrusion, rolling, and sheet forming; material response and formability; and mechanics and analysis of selected processes. Three hours lecture, two hours lab. Prerequisite: ME 313 and ME 371

ME 487 Machining (Credits: 4)

Fundamentals of machining with an emphasis on engineering models of machinability, chip formation, cutting forces and power, and lubrication. Introduction to numerical control machining. Three hours lecture, two hours lab. Prerequisite: ME 371 and ME 487L

ME 488 Powder Processing Materials (Credits: 4)

Fundamental metallurgy and ceramic science of powder processing techniques. Details of current powder processing technology and methods. Hands-on laboratory experience with both metal and ceramic materials. Three hours lecture, two hours lab. Prerequisite: ME 375 and ME 488L

ME 489 Engineering Plastics (Credits: 4)

(Also listed as CHM 469.) Properties and manufacturing processes of engineering plastics and effect of these factors on plastics design. Illustrative laboratory projects included. Two hours lecture, four hours lab. Prerequisite: ME 472 and ME 489L

ME 490 Engineering Design I (Credits: 4)

Independent investigation of contemporary engineering problems under the guidance of an instructor. Topics selected to meet the needs and interests of students. Research of professional literature and submission of an engineering report required. Two hours lecture, two hours lab, one hour recitation. Prerequisite: ME 316 and ME 317 and ME 371 and ME 408 and ME 414 and ME 490L and ME 490R

ME 491 Engineering Design II (Credits: 4)

Independent investigation of contemporary engineering problems under the guidance of an instructor. Topics selected to meet the needs and interests of students. Research of professional literature and submission of an engineering report required. Two hours lecture, two hours lab, one hour recitation.

Prerequisite: ME 490 and ME 491L and ME 491R

ME 492 Materials Engineering Design (Credits: 4)

Independent investigation of a contemporary problem in materials science and engineering under faculty guidance. Project design and reporting are emphasized along with analysis, synthesis, and testing.

Prerequisite: ME 376 and ME 386 and ME 492L

ME 493 Materials Engineering Design II (Credits: 4)

Independent investigation of a contemporary problem in materials science and engineering under faculty guidance. Project design and reporting are emphasized along with analysis, synthesis, and testing.

Prerequisite: ME 492

ME 495 Thermal-Fluid Science Lab (Credits: 2)

Experiments in thermodynamics, fluid dynamics and heat transfer will be performed. Lab reports will be written.

Prerequisite: ME 314 and ME 316 and ME 318

ME 496 Engineering Mechanics Lab (Credits: 2)

Introduction to experimental procedures and measurement techniques used in modern experimental mechanics. Builds on prerequisite classroom theory in mechanics of materials, engineering measurements and system dynamics.

Prerequisite: ME 313 and ME 314 and ME 360

ME 497 Materials Lab I (Credits: 2)

Experimental methods related to the microstructural analysis of materials. Optical microscopy, scanning electron microscopy, sample preparation methods. Microstructural evolution and hardness as a function of mechanical processing and heat treatment.

ME 499 Special Problems-Mech and Egr (Credits: 1 to 5)

Special problems in advanced engineering topics. Topics vary.

Management/MGT

MGT 100 The World of Business and Administration (Credits: 3)

An introduction to the elements of the business environment and the major functions of business: management, marketing, manufacturing, human resources, finance, and accounting.

MGT 101 Community Leadership (Credits: 3)

Provides experiential skill development in the areas of leadership and community service. Students will complete a group community service project, which will be developed in conjunction with the Junior Leadership Dayton program. Open only to Junior Leadership Dayton students. Graded pass/unsatisfactory.

MGT 200 Elements of Management and Supervision (Credits: 4)

For undergraduate, non-business students to acquire a basic understanding of the history, practices, and roles of managers in work organizations.

MGT 304 Management and Organizational Behavior (Credits: 4)

Introduction to fundamental concepts necessary for understanding behavior in an organizational setting. Course incorporates three levels of analysis (individual, group, and organizational) to provide students with a balanced foundation for developing effective management skills.

MGT 321 Human Resources Management (Credits: 4)

Analysis of the human resources system; interrelationship of policy areas such as staffing, development, and utilization.

Prerequisite: MGT 304

MGT 404 Theory and Practice in Employment Interview (Credits: 4)

This course will survey the current scholarly and applied research literature of the employment process from the perspective of both applicant and employer. Focus will be on recruitment and selection methodologies.

Prerequisite: MGT 304

MGT 410 Organizational Development (Credits: 4)

Focuses on development as a systematic, continuing process designed to improve an organization's ability to cope with change. Topics include anticipation of change, overcoming resistance, and intervention strategies. Writing intensive course.

Prerequisite: MGT 321

MGT 411 Leadership and Effective Teams (Credits: 4)

Focuses on advanced theoretical models and effective skills in developing managerial leadership in organizations; and leadership style assessments and structured programs for ongoing professional leadership development.

Prerequisite: MGT 304

MGT 412 Employee and Labor Relations (Credits: 4)

This course provides two perspectives: managing in a unionized environment and managing in a non-unionized environment. The critical aspects of both types of organizations will be analyzed.

Prerequisite: MGT 321

MGT 425 Human Resource Consulting Skills (Credits: 4)

Students will learn theory and application of various HR activities, primarily compensation and staffing. Students work in teams as HR consultants to a local small business.

Prerequisite: MGT 321 and MGT 412 and LAW 420

MGT 470 Business Integrity Capacity (Credits: 4)

Managing individual and collective organizational ethics issues in domestic and global environments; ethics cases in business functions; moral accountability; ethics, innovation and sustainability; improving moral judgment and ethical work cultures; corporate governance ethics. Prerequisite: MGT 304

MGT 473 Managing Conflict in Business (Credits: 4)

Conflict at work has positive and negative outcomes. Effectively managed, it strengthens relationships, while the converse destroys them. Basic theories provide foundation for practical applications of conflict resolution techniques in diverse work situations.

Prerequisite: MGT 304

MGT 474 Quality Business Practices (Credits: 4)

A domestic and global survey of best quality business practices and consulting processes. Examines team application of latest quality assessment and development tools to existing companies in order to accelerate transformation.

MGT 475 Small Business Consulting (Credits: 4)

Students will work in teams with small businesses to develop a business plan. They will look at marketing, finances, staffing, etc. needed to start a business or grow an existing business. This class provides excellent hands-on application of previous course work.

Prerequisite: MGT 304 and MKT 300 and FIN 310

MGT 477 Special Studies in Management (Credits: 1 to 4)

Reading or research in a selected field of management. Topics vary.

MGT 478 Honors: Independent Study in Management (Credits: 2 to 8)

Research in management for fulfillment of the Honors program project requirement.

MGT 480 Special Topics in Management (Credits: 1 to 4)

Seminar in special topics such as organizational assessment, training and development, and personal career development. Topics vary.

MGT 481 Internship (Credits: 3 to 6)

A practical application that integrates academic learning with HRM or management work experiences. This linkage allows students to test their classroom learning in an organizational setting. Limited to HRM and management majors with senior status.

MGT 485 International Management (Credits: 4)

Studies fundamental concepts of international management and examines cultural, institutional, behavioral, and management systems and their operation in the international sphere.

Prerequisite: MGT 304

MGT 493 Ethical and Legal Issues in Global Business (Credits: 4)

Ethical and legal issues in business, government and society; corporate governance accountability to stakeholders; responsible business leadership and public policy with respect to investor, employee, consumer, community, technology, and environment relations.

Prerequisite: LAW 300

MGT 495 Human Resources Strategy Practicum (Credits: 4)

Integrated human resource management strategies. Students will work in groups to analyze human resource structures, policies, and programs in field situations.

Prerequisite: MGT 425

MGT 499 Strategic Management and Organizational Policy (Credits: 4)

Integrative course requiring application of all functional areas of business in the analysis and solution of business problems. Strategic management is the core synthesizing concept of study. Students are required to work in teams.

Military Science/MIL**MIL 111 Introduction to Military Science I (Credits: 2)**

Introduction to customs, courtesies, doctrine, and organization of the U.S. Army, and policies affecting deployment of land forces.

MIL 112 Introduction to Military Science II (Credits: 2)

Introduction to leadership emphasizing fundamentals and principles of leadership, characteristics of a group, and traits of a leader.

MIL 113 Introduction to Military Science III (Credits: 2)

Analysis of leadership theories and management tasks including analysis of organizational structures, planning and organizing, and controlling rewards and punishments. Extensive use of case studies in leadership and management.

MIL 211 Introduction to Military Leadership I (Credits: 2)

Analysis of the light infantry squad's weapons and employment and the leader's role in directing and controlling small units in the execution of offensive and defensive tactical missions. Two hours lecture, one hour lab.

MIL 212 Introduction to Military Leadership II (Credits: 2)

Hands-on approach to the fundamentals of military map reading. Emphasis on identification of terrain features, using grid systems, plotting locations, measuring distances, intersection, resection, and graphic representation.

MIL 213 Introduction to Military Leadership III (Credits: 2)

Analysis of the small unit leader's role in the execution of tactical missions. Requires weekend training exercises and participation in a physical fitness program. Two hours conference, one hour lab.

MIL 311 Small Unit Leadership I (Credits: 2)

Analysis of the small unit leader's role in the execution of tactical missions. Requires weekend training exercises and participation in a physical fitness program. Two hours conference, one hour lab.

Prerequisite: MIL 111 and MIL 112 and MIL 113 and MIL 211 and MIL 212 and MIL 213

MIL 312 Small Unit Leadership II (Credits: 2)

Study of military weapons and equipment and analysis of geography as it pertains to military operations. Requires participation in weekend exercises and physical training program. Two hours conference, one hour lab.

Prerequisite: MIL 311

MIL 313 Small Unit Leadership III (Credits: 2)

Development of ability to express oneself clearly and accurately with emphasis on analysis of military problems, evaluation of situations, and preparation and delivery of logical solutions. Requires participation in weekend training exercises and physical training program. Two hours conference, one hour lab.

Prerequisite: MIL 312

MIL 411 Advanced Leadership I (Credits: 2)

Study of the organization and functions of military staffs with an in-depth analysis of the coordinating staff. Introduction into officer-enlisted relations. Requires participation in weekend training exercises and a physical fitness program. Two hours conference, one hour lab.

Prerequisite: MIL 311 and MIL 312 and MIL 313

MIL 412 Advanced Leadership II (Credits: 2)

briefing techniques/formats. Introduction to professionalism and military professional ethics. Requires participation in weekend training exercises and a physical fitness program. Two hours conference, one hour lab.

Prerequisite: MIL 411

MIL 413 Advanced Leadership III (Credits: 2)

Study/analysis of selected leadership and management problems within the military justice system. Introduction to the counseling obligations and responsibilities of an officer. Requires participation in weekend training exercises and a physical fitness program. Two hours conference, one hour lab.

Prerequisite: MIL 411 and MIL 412

MIL 450 Advanced Topics (Credits: 1)

Independent study project on selected recent or current events that impact on U.S. Army operations, doctrine, structure, planning, or organization. A detailed presentation, causes, actions, and results of a selected topic.

Prerequisite: MIL 411 and MIL 412 and MIL 413

Management Information Systems/MIS

MIS 100 Introduction to Computer-Based Information Systems (Credits: 4)

Computer literacy, information processing fundamentals, and terminology pertinent to using and developing computer applications. Students access database software and the Internet in the lab session. Three hour lecture, one hour lab.

MIS 215 Business Data Structures (Credits: 4)

Abstract data types, data structures, and their implementation in object-oriented programs. Data structures covered include stacks, queues, lists, trees, and graphs. Course requirements include designing and testing object-oriented programs for business applications. Prerequisite: CS 209, MTH 228.

Prerequisite: CS 209 and MTH 228

MIS 300 Introduction to MIS (Credits: 4)

Examination of management information systems from a user perspective. Emphasis on the system life cycle, including computer system analysis and design and the software development life cycle. Database support used to build an information system. Three hours lecture, one hour lab.

Prerequisite: CS 205

MIS 305 Business Operating Systems (Credits: 4)

Review of computer architecture and system administration. Topics include processor management, concurrent programming, memory management, file system, I/O system, network system, and system maintenance. Emphasis is on system administration and programming in business organizations. Prerequisite: MIS 215.

Prerequisite: MIS 215

MIS 325 Analysis and Design of Information Systems (Credits: 4)

Overview of the system analysis and design methodologies. Topics include planning, SDLC, project management overview, data, process and logic modeling techniques. Students learn to specify design, implementation, specifications, and testing plans.

Prerequisite: MIS 300

MIS 345 E-Business Strategy, Design and Application (Credits: 4)

An introduction to E-business strategy and design. Students will examine electronic methods of delivering products and services between organizations (B2B) and consumers (B2C). A solution to an e-business case will be developed.

Prerequisite: MIS 215

MIS 415 Business Database Systems (Credits: 4)

Understanding concepts, principles and data models of managing organizational data. Students will gain extensive experience in developing data models, applying relational database software, creating and using complex queries, and learning recent topics.

Prerequisite or co-requisite: MIS 325

MIS 425 Business Networks and Telecom (Credits: 4)

Familiarize students with the background, concepts, types, proper applications, and components of telecommunications, network design, and distributed information systems. Emphasis is on the telecommunications technology and its impact on information systems and business operations.

Prerequisite: MIS 300

MIS 450 System Development and Implementation (Credits: 4)

An introduction to the basic principles, methods, and tools of software development. Concentrates on software development discipline, encompassing different paradigms and methods. Topics include software conventional and object-oriented design and development methods, software quality assurance, and software measurement.

Prerequisite: MIS 325

MIS 477 Special Studies in MIS (Credits: 1 to 4)

Research in selected fields of management information systems. Topics vary.

MIS 478 Independent Study in MIS (Credits: 2 to 8)

Research in management information systems for fulfillment of the honors project requirement. Senior MIS majors only.

MIS 480 Special Topics in MIS (Credits: 4)

Cutting edge topics could include information security, enterprise integrated systems and data mining and data warehouse.

MIS 481 Internship in MIS (Credits: 1 to 8)

Faculty-supervised internship in management information systems. Students work on an information systems project in a firm or public agency and submit reports for completion of the course.

MIS 495 IS Project Management and Development (Credits: 4)

Introduce concept, practice, and the importance of project management. Students work in teams to gain practical experience in analyzing, designing, implementing, evaluating, and development of information system, for businesses and non-profit organizations.

Prerequisite: MIS 415 and MIS 450

Marketing/MKT**MKT 250 Principles of Marketing (Credits: 4)**

Survey course dealing with the role of marketing in society, customer selection, product management, channels of distribution, pricing concepts, promotional activity, research and planning with an economic and business environment.

Prerequisite or corequisite: EC 204

MKT 303 Consumer Behavior (Credits: 4)

An understanding of the purchase decision processes of individuals and families. Examination of psychological, economic, societal and cultural influences on consumer decisions. Marketing strategy implications of conceptual constructs are discussed throughout the course.

MKT 325 Sports and Event Marketing (Credits: 4)

Overview of the multidimensional activities within this industry. An industry framework will be presented to explain the strategic marketing process, contrasting its similarities and differences to the well-studied marketing process.

Prerequisite: MKT 250

MKT 356 Services Marketing (Credits: 4)

Explores the fundamental product, price, promotion, and distribution issues that require special attention in the marketing of services and their related current and emerging theories and strategies for effective implementation.

Prerequisite: MKT 250

MKT 366 Personal Selling and Sales Management (Credits: 4)

Emphasizes personal selling—marketing relationships, buyer motivation and behavior, selling strategy, and techniques of selling. Objectives, policies, and techniques of sales force management including financial and performance responsibilities and opportunities.

Prerequisite: MKT 250

300 Course Descriptions

MKT 418 Price Management (Credits: 4)

Evaluation and application of existing and developing pricing techniques, procedures, concepts, and theories to simulated and real price management problems.

Prerequisite: MKT 250

MKT 421 International Marketing (Credits: 4)

Analysis of the nature and scope of international marketing including its managerial and operational problems. Emphasis is on the role of environmental differences that influence marketing strategy.

MKT 431 Supply-Chain Distribution (Credits: 4)

Introduction to the concepts and procedures, the importance, and the management of the "supply chain" that physically moves products and services down the chain of companies to the final customer.

Prerequisite: MKT 250 and MS 307

MKT 446 Integrated Marketing Communication (Credits: 4)

The course will introduce students to integrated marketing communications including advertising, direct marketing, public relations and sales promotion. Includes discussion of creative and media strategies.

Prerequisite: MKT 250

MKT 447 Technologies in Marketing (Credits: 4)

Understanding marketing technologies. Topics will vary; may include micro marketing, geo-demographic marketing, data mining, Internet marketing, diffusion models, competitive advantage, Howard models of consumer behavior and sales forecasting.

Prerequisite: MKT 250 and MIS 300

MKT 451 Marketing Research (Credits: 4)

Examination of marketing research processes. Focuses on concepts and procedures, the importance and the management of research in marketing.

Prerequisite: MKT 303 and MS 204

MKT 452 Marketing Strategy (Credits: 4)

The goals of the course are to develop students' abilities to recognize opportunities and solve problems related to marketing strategy and improve students' decision making skills as applied to the planning of marketing programs.

Prerequisite: MKT 451 and MKT 303

MKT 461 Principles of Retailing (Credits: 4)

Analysis of the performance of marketing functions at the retail level. Emphasis on institutional and competitive factors and management of the marketing mix as it relates to retail market segments.

Prerequisite: MKT 250

MKT 471 Business-To-Business Marketing (Credits: 4)

Explores business-to-business marketing—the marketing of goods and services to businesses rather than consumers. Examines the differences between consumer and business marketing in target markets, product, price, promotion, distribution and the environment.

Prerequisite: MKT 250

MKT 475 Entrepreneurship (Credits: 4)

How to start a business. Concepts, strategies and tactics of product innovation/development and planning to initiate of purchase a company. Students may develop a written business plan for a new venture.

Prerequisite: MKT 303 and FIN 310

MKT 477 Independent Studies in Marketing (Credits: 1 to 4)

Research or other marketing project.

Prerequisite: MKT 250

MKT 478 Honors: Independent Study in Marketing (Credits: 2 to 8)

Research in marketing for fulfillment of the Honors program project requirement

Prerequisite: MKT 303

MKT 480 Special Topics in Marketing (Credits: 4)

Seminar in special topics such as consumerism and social issues, nonprofit organization marketing, advanced retailing management, channels of distribution, and forecasting. Topics vary.

Prerequisite: MKT 250

MKT 481 Internship in Marketing (Credits: 1 to 4)

Faculty-supervised internship in marketing area.

MKT 492 Senior Projects in Marketing (Credits: 4)

Final course to integrate the students' work in marketing and to practice marketing problem-solving. Particular emphasis is given to the development of marketing plans.

Prerequisite: MKT 303 and MKT 451 and MKT 452

Modern Languages/ML

ML 301 French Culture (Credits: 4)

Study of French culture according to language distinctions with emphasis on the uniqueness within the family of nations.

ML 302 Germanic Culture (Credits: 4)

Study of German culture according to language distinctions with emphasis on the uniqueness within the family of nations

ML 303 Spanish Culture (Credits: 4)

Study of Spanish cultures according to language distinctions with emphasis on the uniqueness within the family of nations

ML 304 Spanish-American Culture (Credits: 4)

Study of Spanish-American culture according to language distinctions with emphasis on the uniqueness within the family of nations.

ML 305 Russian Culture (Credits: 4)

Study of Russian culture according to language distinctions with emphasis on the uniqueness within the family of nations.

ML 306 Introduction to Brazilian Culture (Credits: 4)

Selected works of foreign literature studied in English translation. French literature.

ML 311 French Literature in Translation (Credits: 4)

Selected works of foreign literature studied in English translation. French literature.

ML 312 German Literature in Translation (Credits: 4)

Selected works of foreign literature studied in English translation. German literature.

ML 313 Russian Literature in Translation (Credits: 4)

Selected works of foreign literature studied in English translation. Russian literature.

ML 314 Spanish Literature in Translation (Credits: 4)

Selected works of foreign literature studied in English translation. Spanish literature.

ML 315 Spanish-American Literature Translation (Credits: 4)

Selected works of foreign literature studied in English translation. Spanish-American literature.

ML 316 Scandinavian Literature Translation (Credits: 4)

Selected works of foreign literature studied in English translation. Scandinavian literature.

ML 369 Children's Literature for Teachers of Foreign Language (Credits: 4)

Problems, approaches, and topics in the field of modern languages. Topics vary.

Prerequisite: SPN 202 or FR 202 or RUS 202 or GER 202

ML 399 Studies in Selected Subjects (Credits: 1 to 4)

Problems, approaches, and topics in the field of modern languages. Topics vary.

Motion Pictures/MP

MP 131 Film Appreciation (Credits: 4)

Introduction to film appreciation and analysis; examines critical approaches to film and film style including authorship and genre.

MP 180 Film Production I (Credits: 3)

Introduction to the basic elements of film production including scripting, cinematography, editing, and sound. Participation on super-8 film projects from initial conception to final screening.

MP 231 History of Motion Picture I (Credits: 3)

Historical development of the art of the film from 19th-century scientific experiments through the end of silent era. Examination of technical, social, economic, and cultural factors that have shaped film art.

MP 232 History of Motion Picture II (Credits: 3)

Historical development of the art of the film from beginning of the sound era to the mid-fifties. Consideration of both American and European film and relation of films to sociocultural conditions.

MP 233 History of Motion Picture III (Credits: 3)

Historical development of the art of the film from the beginning of the mid-fifties to the present. The decline of the studio system, major film movements of the sixties, and the rise of independent feature production are considered.

MP 253 Basic Video Production (Credits: 3)

(Also listed as COM 253.) Introduction to the use of video production equipment, using lecture, demonstration, and experiential approaches. Appropriate laboratory time provided in television studio.

Prerequisite: COM 152, or permission of instructor.

MP 281 Intermediate Film Production (Credits: 3)

Production of medium length film projects under faculty supervision. Review of lip-sync film production techniques and discussion of special production problems. Includes writing of film treatment and shooting script, and shooting and finishing a medium-length film.

Prerequisite: MP 180

MP 282 Intermediate Film Production (Credits: 3)

Production of medium length film projects under faculty supervision. Review of lip-sync film production techniques and discussion of special production problems. Includes writing of film treatment and shooting script, and shooting and finishing a medium-length film.

Prerequisite: MP 281

MP 283 Intermediate Film Production (Credits: 3)

Production of medium length film projects under faculty supervision. Review of lip-sync film production techniques and discussion of special production problems. Includes writing of film treatment and shooting script, and shooting and finishing a medium-length film.

Prerequisite: MP 282

MP 331 Studies in Film History (Credits: 3)

Provides intensive study of selected areas of film history. Titles vary. (Previously listed as TH 331.)

MP 332 Studies in Film Authorship (Credits: 3)

Provides an intensive study of the work of one or more film directors or other creative personnel, such as screenwriters or performers. Titles vary.

Prerequisite: MP 131

302 Course Descriptions

MP 333 Studies in Film Genre (Credits: 3)

Provides an intensive study of a film genre (e.g., the western, the musical, and the gangster film). Titles vary.

MP 334 History and Theory of the Documentary Film (Credits: 3)

Comprehensive survey of the history of documentary film and an introduction to the theories and approaches used by documentary filmmakers throughout this century.

Prerequisite: MP 131

MP 381 16mm Film Production (Credits: 5)

Production of 16mm film and video projects under faculty supervision including budgeting, financing, and production. Emphasis on the documentary, fiction, and independent film within the free-lance 16mm market.

Prerequisite: MP 283

MP 382 16mm Film Production (Credits: 5)

Production of 16mm film and video projects under faculty supervision including budgeting, financing, and production. Emphasis on the documentary, fiction, and independent film within the free-lance 16mm market.

Prerequisite: MP 381

MP 383 16mm Film Production (Credits: 5)

Production of 16mm film and video projects under faculty supervision including budgeting, financing, and production. Emphasis on the documentary, fiction, and independent film within the free-lance 16mm market.

Prerequisite: MP 382

MP 399 Studies in Selected Subjects (Credits: 1 to 4)

Problems, approaches, and topics in the field of motion pictures. Topics vary.

MP 435 Studies in Film Criticism (Credits: 3)

Intensive examination of a selected area of film criticism. Titles vary.

MP 436 Studies in Film Production (Credits: 3)

Provides an intensive study of a selected area of film production. Titles vary.

MP 481 Senior Practicum in Filmmaking (Credits: 3)

Requires production of a 16mm sound film to answer print stage with optical soundtrack, and the organization of a cumulative senior screening including the practicum films.

Prerequisite: MP 381

MP 490 Independent Screening (Credits: 3)

Independent screenings of 25 films chosen by the student to comprise an integrated program of historical/theoretical focus. Screenings to be accompanied by the reading of appropriate analytical commentary under the direction of faculty member.

Prerequisite: MP 231 and MP 232 and MP 233

MP 499 Independent Study in Film History, Theory, Criticism, and Practice (Credits: 1 to 4)

Independent work to culminate in thesis and/or film.

Prerequisite: MP 332 and MP 333

Management Science/MS

MS 204 Introduction to Business Statistics (Credits: 4)

Discusses statistical methods used in analysis of business problems, including theory and application of frequency distributions, measures of central tendency and variability, probability distributions, expectation, sampling and estimation, and one-sample hypothesis testing.

Prerequisite: MTH 127 and CS 205

MS 205 Quantitative Business Modeling (Credits: 4)

A course designed to introduce students to the study of additional probabilistic models and also to some basic deterministic models.

Prerequisite: MS 204 and MTH 128

MS 307 Introduction to Operations Management (Credits: 4)

Discusses the major management decision areas in the design and production of goods and services. Major topics include strategic issues, forecasting, inventory management, planning and control systems, quality management, and project management.

Prerequisite: MS 205 and MTH 228

MS 320 Basics of Supply Chain Management (Credits: 4)

Explores the fundamentals of supply chain management, including the strategic role of the supply chain, key drivers of supply chain performance, and analytical tools and techniques for supply chain analysis. Cases and in-class exercises.

Prerequisite: MS 307

MS 322 Systems Simulation Operations (Credits: 4)

Introduction to simulation techniques as applied to operations management. Topics include basic concepts, applications, and technical problems associated with use of systems simulation. Design, operation and output analysis of computer models emphasized.

Prerequisite: MS 205 and MS 307

MS 324 Managing the Service Sector (Credits: 4)

Management of services is different from manufacturing. Course objectives include develop and manage service package, identify and measure service quality, prepare a blueprint for a service operation, and understand service supply chain management.

Prerequisite: MS 307

MS 330 Quality Management (Credits: 4)

Quality is defined, and the various systems that are used for achieving quality products and services are evaluated. Philosophies of quality, quantitative tools for implementation, ISO 9000 and the Baldrige Award are discussed.

Prerequisite: MS 307

MS 333 Operations Planning (Credits: 4)

Explores fundamentals of forecasting and order quantity calculation for both independent and dependent demand, and then the usage of that information to schedule production of those items in typical manufacturing applications.

Prerequisite: MS 307

MS 334 Global Supply Chain Management (Credits: 4)

The objective of this course is to provide students with an understanding of how managers can develop and use the operations function of a business in order to enhance global competition.

Prerequisite: MS 307

MS 460 Strategic Management of Operations (Credits: 4)

A strategic perspective for operations is developed, providing a linkage with marketing and other functions. Product profiling is introduced for testing the fit between market characteristics and the company's operations processes and infrastructure.

Prerequisite: MS 307

MS 477 Special Studies in MS (Credits: 1 to 4)

Topics vary.

MS 478 Honors: Independent Study in MS (Credits: 2 to 8)

Research in management science for fulfillment of the Honors program project requirement.

MS 480 Special Topics in MS (Credits: 4)

480-A Operations Management; 480-B Statistical Methods; 480-C Quality Management; 480-D Operations Research. Reading and research into selected topics in the area of Management Science, such as modeling, simulation, and algorithm development.

MS 481 Internship in Management Science (Credits: 1 to 8)

Faculty-supervised internship in management science. Students work in a firm or public agency, participate in seminars, and submit reports for completion of the course.

MS 495 Operations Management Project Management and Development (Credits: 4)

Introduce concept, practice, and the importance of project management. Students work in teams to gain practical experience in analyzing, designing, implementing, evaluating, and development of operations management for businesses and non-profit organizations.

Prerequisite: MS 460

Mathematics/MTH**MTH 126 Intermediate Algebra (Credits: 5)**

For students with little or no recent experience with topics beyond elementary algebra. Topics include factoring, algebraic fractions, linear equations and word problems, equations involving fractions, laws of exponents, radicals and principal roots, quadratic equations, equations involving radicals or exponents, and line graphs. Topics covered are the same as in MTH 127, but involve more practice of necessary skills.

Prerequisite: DEV 095

MTH 127 Accelerated Intermediate Algebra (Credits: 3)

Best suited for students who have recent experience with intermediate algebra, but require a review. Topics covered are the same as in MTH 126, but the pace is much faster.

Prerequisite: DEV 095

MTH 128 College Algebra (Credits: 5)

Best suited for students having little recent experience with topics beyond intermediate algebra or whose mastery of intermediate algebra is less than perfect. Topics covered are the same as in MTH 129 but are accompanied by more practice of necessary skills. In addition, skills learned in intermediate algebra are reinforced and clarified in the context of these more advanced topics.

Prerequisite: MTH 126 or MTH 127

MTH 129 Accelerated College Algebra (Credits: 3)

Best suited for students having little recent experience with topics beyond intermediate algebra or whose mastery of intermediate algebra is less than perfect. Topics covered are the same as in MTH 129 but are accompanied by more practice of necessary skills. In addition, skills learned in intermediate algebra are reinforced and clarified in the context of these more advanced topics.

Prerequisite: MTH 126 or MTH 127

MTH 130 Precalculus (Credits: 5)

Functions and graphs, polynomial and rational functions, conics, systems of equations, exponential and logarithmic functions, geometric series, binomial theorem.

Prerequisite: MTH 126 or MTH 127

MTH 131 Trigonometry (Credits: 3)

Trigonometric and inverse trigonometric functions. Not for credit to students with credit for MTH 134.

Prerequisite: MTH 130

MTH 134 College Algebra II and Trig (Credits: 5)

Combines the material of MTH 130 and 131 into a single course. Topics covered are the same as in those two courses. Not for credit to students with credit for MTH 130 and/or MTH 131.

Prerequisite: MTH 128 or MTH 129

304 Course Descriptions

MTH 143 Quantitative Reasoning (Credits: 4)

Discovery of fundamental concepts and skills of quantitative reasoning by exploring real-world data from many disciplines. Data collection, organization, display, analysis, probability simulation, variation and sampling, and expected values. Students work with appropriate software and graphing calculators.

Prerequisite: MTH 126 or MTH 127

MTH 145 Mathematics and The Modern World (Credits: 4)

An application of mathematics to modeling real world problems from the behavioral, computational, managerial, and social sciences. Includes such topics as graph theory, linear programming, probability, descriptive and inferential statistics, voting systems, game theory, population growth, computer algorithms, and codes and data storage.

Prerequisite: DEV 095

MTH 200 Accelerated Calculus I (Credits: 3)

This course and MTH 300 cover the material of MTH 229, 230, and 231 at an accelerated pace. Graded pass/unsatisfactory.

MTH 228 Calculus for the Management, Life and Social Sciences (Credits: 5)

Functions, rates of change, limits, derivatives of algebraic functions, applications including maxima and minima, exponential and logarithmic functions, and indefinite and definite integrals with applications. Not for credit to students with credit for MTH 229 and 230

Prerequisite: MTH 128 or MTH 129

MTH 229 Calculus I (Credits: 5)

Conic sections, functions, limits, continuity, the derivative, derivatives of algebraic and trigonometric functions, and applications of the derivative.

Prerequisite: MTH 131

MTH 230 Calculus II (Credits: 5)

Definite integral, antiderivatives, fundamental theorem of calculus. Derivatives of logarithmic, exponential, and inverse trigonometric functions. L'Hopital's rule. Integration techniques.

Applications of the definite integral.

Prerequisite: MTH 229

MTH 231 Calculus III (Credits: 5)

Applications of the definite integral, polar coordinates, and parametric equations. Infinite series, power series, and vector algebra in the plane and space.

Prerequisite: MTH 230

MTH 232 Calculus IV (Credits: 5)

Partial derivatives and definite integrals in the plane and space. Vector functions and their derivatives, motion in space, vector fields, line and surface integrals, Green's theorem, divergence theorem, and Stoke's theorem.

Prerequisite: MTH 231

MTH 233 Differential Equations (Credits: 5)

Elementary first order equations, linear equations, linear systems, series solutions, Laplace transform, and applications. Uniqueness and existence theorems for solutions.

Prerequisite: MTH 231

MTH 235 Differential Equations with Matrix Algebra (Credits: 5)

Introduction to differential equations with matrix theory. Topics include separable equations, first order equations, matrices, vector spaces, second order linear equations, undetermined coefficients, forced oscillations, eigenvalues, matrix diagonalization, systems of linear equations, Laplace transforms.

Prerequisite: MTH 231

MTH 243 Fundamental Math Concepts I (Credits: 4)

Overview of mathematical topics from a perspective appropriate for early and middle childhood educators. Covers sets, functions, prenumeration and numeration concepts, properties of whole numbers, integers, and rational numbers. Three hours lecture, one hour lab.

Prerequisite: MTH 143

MTH 244 Fundamental Math Concepts II (Credits: 4)

Overview of mathematical topics from a perspective appropriate for early and middle childhood educators. Covers irrational numbers, proportions, introductory geometry, construction, congruence and similarity, and concepts of measurement. Three hours lecture, one hour lab.

Prerequisite: MTH 243

MTH 253 Elementary Matrix Algebra (Credits: 3)

Elementary course in matrix theory covering matrices, linear equations, determinants, linear transformations, eigenvalues, and eigenvectors.

Prerequisite: MTH 230

MTH 255 Linear Algebra (Credits: 3)

In-depth introduction to the basic concepts of linear algebra in real Euclidean n -space. Topics include Gaussian elimination, algebra of matrices, determinants, geometry of Euclidean space, subspaces, linear independence, basis, dimension and rank, and the Gram-Schmidt process.

Prerequisite: MTH 231

MTH 257 Discrete Math for Computing (Credits: 3)

Discrete mathematics useful in computing. Emphasis on mathematical induction, recurrence relations, asymptotic behavior of functions, and algorithm analysis.

Prerequisite: MTH 230 and CS 142 or CS 241

MTH 280 Intro to Mathematics Proof (Credits: 3)

Basic notions of logic and techniques used in mathematical proof. Students gain experience in constructing proofs as they study basic notions from sets, relations, functions, algebraic structures, and the properties of real numbers.

Prerequisite: MTH 231

MTH 290 Writing in Mathematics (Credits: 3)

Explores four aspects of writing in mathematics: expository writing, explaining mathematical ideas; formal writing, making proofs intelligible; writing as a learning tool, clarifying ideas by putting them on paper; and informal writing.

Prerequisite: MTH 280 and MTH 255

MTH 300 Accelerated Calculus II (Credits: 3)

Continuation of MTH 200. Graded pass/unsatisfactory.

Prerequisite: MTH 200

MTH 303 Differential Equations II (Credits: 3)

Examples of systems of differential equations, complex and repeated eigenvalues, solutions of systems, matrix exponential, qualitative behavior of first order equations, planar systems and stability, almost linear systems, and energy method.

Prerequisite: MTH 233 and MTH 253

MTH 304 Advanced Engineering Mathematics I (Credits: 3)

Topics may include ordinary differential equations, linear algebra, orthogonality, Fourier series and integrals, multivariable calculus, and partial differential equations.

Prerequisite: MTH 232 and MTH 235 or (MTH 233 and MTH 253)

MTH 305 Advanced Engineering Mathematics II (Credits: 3)

Topics may include multivariable calculus, partial differential equations, numerical methods, linear algebra, complex variables, conformal mapping, calculus of variations, and wavelets.

Prerequisite: MTH 304

MTH 306 Mathematical Modeling (Credits: 3)

Structure and properties of mathematical models. Size effects, dimensional analysis, graphical methods, comparative statistics, stability, optimization techniques, probabilistic models, and Monte Carlo simulation.

Prerequisite: MTH 233 and MTH 253 or MTH 355

MTH 310 Issues in Science (Credits: 3)

A writing-intensive course dealing with issues in science.

MTH 314 Intro To Mathematical Software (Credits: 3)

Solving scientific problems using computational software packages MATLAB and MATHEMATICA, including procedural and functional programming.

Prerequisite: MTH 233 and MTH 253

MTH 316 Numerical Methods for Digital Computer I (Credits: 4)

Introduction to numerical methods used in the sciences. Methods of interpolation, data smoothing, functional approximation, integration, solutions of systems of equations, and solutions of ordinary differential equations. Three hours lecture, two hours lab.

Prerequisite: MTH 231 and MTH 253 or MTH 255 and CS 220 or CS 142 or CS 241 or EGR 153

MTH 317 Numerical Methods for Digital Computer II (Credits: 4)

Introduction to numerical methods used in the sciences. Methods of interpolation, data smoothing, functional approximation, integration, solutions of systems of equations, and solutions of ordinary differential equations. Three hours lecture, two hours lab.

Prerequisite: MTH 233 and MTH 316 and MTH 253 or MTH 355

MTH 332 Complex Variable (Credits: 3)

Topics discussed include power series expansion, the formula of Cauchy, residues, conformal mappings, and elementary functions in the complex domain.

Prerequisite: MTH 232

MTH 333 Partial Differential Equations and Boundary Value Problems (Credits: 3)

Partial differential equations, boundary value problems, and eigenfunctions. Fourier series, applications.

Prerequisite: MTH 232 and MTH 233

MTH 343 Algebra and Functions for Middle School Teachers (Credits: 4)

Polynomial, exponential, logarithmic, rational, and trigonometric functions will be studied from a perspective appropriate for a teacher. Computing, programming, graphing, and data collection technology will be used.

Prerequisite: MTH 128 or MTH 129 and MTH 243

MTH 344 Problem Solving for Middle School Teachers (Credits: 4)

A framework and useful heuristics for solving problems. Visual thinking and reasoning, metacognition, problem-solving logs and summaries, problem solving individually and in groups.

Prerequisite: MTH 244 and MTH 343

MTH 345 Geometry for Middle School Teachers (Credits: 4)

Axioms, finite geometries, non-metric and metric lengths, angles, area, volume, polygonal figures, and elementary curves.

Prerequisite: MTH 244

MTH 348 Concepts in Calculus for Middle School Teachers (Credits: 4)

An exploration and study designed to provide a conceptual understanding of differentiation and integration with examples of their diverse applications and their connections to algebra and geometry.

Prerequisite: MTH 244 and MTH 343

MTH 355 Advanced Linear Algebra (Credits: 3)

Covers vector spaces and subspaces, basis and dimension, linear transformations and matrices, eigenvalues and eigenvectors, and inner product spaces.

Prerequisite: MTH 255

MTH 381 Elementary Number Theory (Credits: 3)

Divisibility properties of integers, prime numbers, congruences, the Chinese remainder theorem, quadratic reciprocity law, Mobius inversion formula, Euler ϕ -function, other number-theoretic functions.

MTH 399 Selected Topics (Credits: 1 to 5)

Selected topics in mathematics. May be taken for letter grade or pass/unsatisfactory.

MTH 407 Optimization Techniques (Credits: 3)

Concepts of minima and maxima. Linear programming: simplex method, sensitivity, and quality. Transportation and assignment problems. Dynamic programming.

Prerequisite: MTH 233 and MTH 253 or MTH 255

MTH 410 Theoretical Foundations of Computing (Credits: 4)

Turing machines, 5-recursive functions, equivalence of computing paradigms, Church-Turing thesis, undecidability, and intractability.

Prerequisite: CS 466

MTH 415 Introduction to Scientific Computation (Credits: 4)

In a hands-on multidisciplinary setting, the student will use modern computational techniques for simulating scientific phenomena, running and modifying existing programs.

Prerequisite: MTH 314 or MTH 416 and MTH 306

MTH 416 Matrix Computations (Credits: 4)

Survey of numerical methods in linear algebra, emphasizing practice with high-level computer tools. Topics include Gaussian elimination, LU decomposition, numerical eigenvalue problems, QR factorization, least squares, singular value decompositions, and iterative methods.

Prerequisite: MTH 253 or MTH 355 and CS 142 or CS 241

MTH 419 Cryptography and Data Security (Credits: 3)

Introduction to the mathematical principles of data security. Various developments in cryptography will be discussed, including public-key encryption, digital signatures, the data encryption standard (DES), and key safeguarding schemes.

Prerequisite: MTH 253 or MTH 255

MTH 423 Advanced Logic (Credits: 3 to 4)

Listed jointly with Department of Philosophy; see PHL 423. Treats logic as an object rather than a subject. Contains extensions to higher order logic, but mainly emphasizes the use of logic and the limitations of logical systems.

Prerequisite: PHL 123 and PHL 323

MTH 431 Real Variables I (Credits: 3)

Functions, sequences, limits, continuity, differentiability, integration, and mean-value theorems.

Prerequisite: MTH 280

MTH 432 Real Variables II (Credits: 3)

Infinite series, uniform convergence, Taylor series, improper integrals, special functions, and Fourier series.

Prerequisite: MTH 431

MTH 433 Real Variables III (Credits: 3)

Theory of functions of several variables, vector-valued functions.

Prerequisite: MTH 432

MTH 434 Introduction to Complex Analysis (Credits: 5)

Complex arithmetic, differentiation (analytic functions, the Cauchy-Riemann equations), elementary functions and their mapping properties, integration (Cauchy's theorem, Cauchy integral formula), Taylor and Laurent series, poles, residues, and the residue theorem.

Prerequisite: MTH 232

MTH 440 History of Mathematics (Credits: 3)

Development of calculus from antiquity through Newton, Leibniz, development of classical analysis; the rise of abstraction; set theory, algebra, and topology; modern analysis.

Prerequisite: MTH 231 and MTH 451 and MTH 471

MTH 446 Mathematical Modeling for Middle School Teachers (Credits: 4)

An introduction to mathematical modeling by modeling real world problems individually and in groups. Focuses on working with the steps involved in modeling a real-life situation and understanding how modeling differs from simple problem solving.

Prerequisite: MTH 344

MTH 450 Discrete Algebraic Structures (Credits: 3)

Introduction to several abstract algebraic structures and their models that are used in computer science. Examples include semigroups and finite-state machines, and groups and codes.

Prerequisite: MTH 253 or MTH 255

MTH 451 Introduction to Modern Algebra I (Credits: 3)

Introduction to abstract algebraic structures including groups, rings, integral domains, and fields.

Prerequisite: MTH 280 or MTH 450

MTH 452 Introduction to Modern Algebra II (Credits: 3)

Introduction to abstract algebraic structures including groups, rings, integral domains, and fields.

Prerequisite: MTH 451

MTH 456 Coding Theory (Credits: 3)

Examines the essentials of error-correcting codes and the study of methods for efficient and accurate transfer of information. Topics to be covered include basic concepts, perfect and related codes, cyclic codes, and BCH codes.

Prerequisite: MTH 253 or MTH 355

MTH 457 Combinatorics (Credits: 3)

Topics are permutations, combinatorics, generating functions, recurrence relations, and Polya's theory of counting.

Prerequisite: MTH 231

MTH 458 Applied Graph Theory (Credits: 3)

Introduction to methods, results, and algorithms of graph theory. Emphasis on graphs as mathematical models applicable to organizational and industrial situations.

Prerequisite: MTH 231 and CS 142 or CS 241

MTH 459 Combinatorial Tools for Computer Science (Credits: 3)

Introduction to some of the mathematical tools needed for an understanding of computer programming. The topics covered are summations, elementary number theory, combinatorial identities, generating functions, and asymptotics.

Prerequisite: MTH 280

MTH 471 Geometry (Credits: 3)

Topics in foundations of Euclidean geometry, introduction to non-Euclidean and other geometries.

Prerequisite: MTH 280

MTH 472 Projective Geometry (Credits: 3)

Projective and affine planes and spaces, change of coordinates, projective transformations, and conics.

Prerequisite: MTH 231

MTH 475 Differential Geometry (Credits: 4)

Calculus on Euclidean space frame fields, calculus on a surface, shape operators, and geometry of surfaces in Euclidean three space.

MTH 476 Computer Graphics I (Credits: 4)

Contents: raster graphics algorithms, geometric primitives and their attributes, clipping, antialiasing, geometric transformations, structures and hierarchical modes, input devices,

and interactive techniques. Students develop interrelated programs to design, manipulate, and view a three-dimensional hierarchical model.

Prerequisite: MTH 253 or MTH 255 and CS 400

MTH 477 Computer Graphics II (Credits: 4)

Continuation of MTH 476. Covers surface rendering, hidden line and surface removal, illumination models, texture mapping, color models, geometric modeling, and graphical interface design. Students develop programs and a final project.

Prerequisite: MTH 476 or CEG 476

MTH 481 Methods of Applied Mathematics: Differential Equations (Credits: 3)

Solution methods for ordinary differential equations commonly arising in physics and engineering. Systems of equations, stability theory, Liapunov's methods, autonomous systems, existence and uniqueness of solutions, Poincare phase plan.

Prerequisite: MTH 233 and MTH 355 or MTH 480

MTH 482 Methods of Applied Mathematics: Integral Methods (Credits: 3)

Use of integral transforms in the solution of differential and integral equations. Fourier series, Fourier and Laplace transforms, distributions, integral equations, Greens functions, Sturm-Liouville theory, perturbation methods and asymptotics, orthogonal functions, special functions.

Prerequisite: MTH 332 or MTH 434 and MTH 355 or MTH 480

MTH 488 Independent Reading (Credits: 1 to 5)

Topics vary.

MTH 491 Undergraduate Math Education Seminar (Credits: 3)

Detailed study of the connections within mathematics and between mathematics and school mathematics. May be taken for letter grade or pass/unsatisfactory.

Prerequisite: MTH 432

MTH 492 Undergraduate Mathematics Seminar (Credits: 3)

Detailed study of a single mathematics topic chosen by the student with the approval of the instructor. The student will present the results of the study in an expository paper submitted to the instructor, and also present them to a broader audience.

Prerequisite: MTH 432 or MTH 452

MTH 499 Selected Topics (Credits: 1 to 5)

Selected topics in mathematics.

Music: Applied Music/MUA

MUA 110 Applied Music (Credits: 1)

Applied music instruction is available to the general student, regardless of major. Section number designates applied area. Audition required. Half-hour lesson only. Enrollment limited. Department permission required.

MUA 111 Applied Music (Credits: 1)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 112 Applied Music (Credits: 1)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 113 Applied Music (Credits: 1)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 121 Applied Music (Credits: 2)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 122 Applied Music (Credits: 2)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 123 Applied Music (Credits: 2)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 141 Applied Music (Credits: 4)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 142 Applied Music (Credits: 4)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 143 Applied Music (Credits: 4)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 211 Applied Music (Credits: 1)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 212 Applied Music (Credits: 1)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 213 Applied Music (Credits: 1)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 221 Applied Music (Credits: 2)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 223 Applied Music (Credits: 2)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 241 Applied Music (Credits: 4)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 242 Applied Music (Credits: 4)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 243 Applied Music (Credits: 4)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 311 Applied Music (Credits: 1)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 312 Applied Music (Credits: 1)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 313 Applied Music (Credits: 1)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 321 Applied Music (Credits: 2)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 322 Applied Music (Credits: 2)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 323 Applied Music (Credits: 2)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 341 Applied Music (Credits: 4)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 342 Applied Music (Credits: 4)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 343 Applied Music (Credits: 4)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 399 Junior Recital (Credits: 0)

A solo concert performance on the major instrument during the junior year.

MUA 411 Applied Music (Credits: 1)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 412 Applied Music (Credits: 1)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 413 Applied Music (Credits: 1)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 421 Applied Music (Credits: 2)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 422 Applied Music (Credits: 2)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 441 Applied Music (Credits: 4)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 442 Applied Music (Credits: 4)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 443 Applied Music (Credits: 4)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUA 499 Senior Recital (Credits: 0)

A solo concert performance on the major instrument during the senior year.

Music Ensembles/MUE

MUE 205 Chamber Music (Credits: 1)

Audition required.

MUE 244 University Brass Choir (Credits: 1)

A performance-oriented group which provides the student with chamber brass music experience. Students learn elements of ensemble execution, professionalism, brass music history, orchestral styles, and sound production. Audition required.

MUE 245 Collegium Musicum (Credits: 1)

Collegium Musicum is the generic term for an instrumental and vocal ensemble devoted to the study and performance of early music, that was written before 1750. One period (Medieval, Renaissance, Baroque) will be emphasized each quarter.

Prerequisite: MUS 121 and MUS 151

MUE 246 University Saxophone Quartet (Credits: 1)

Performs saxophone quartet repertoire ranging from classic to jazz to contemporary. Audition and course instructor permission required.

MUE 247 University Flute Choir (Credits: 1)

Performs music of all time periods and styles originally composed for this instrumentation as well as transcriptions of masterworks.

MUE 248 University Clarinet Choir (Credits: 1)

Performs music of all time periods and styles originally composed for this instrumentation as well as transcriptions of masterworks.

310 Course Descriptions

MUE 249 Chamber Players (Credits: 1)

Exploration of performance repertoire composed expressly for small wind ensemble. Works by such composers as Mozart, Strauss, Dvorak, Beethoven, and Stravinsky. Consent of conductor and student's applied instructor required.

MUE 266 Concert Band (Credits: 1)

Performs band music of all styles. Open to all students without audition.

MUE 267 Pep Band (Credits: 1)

Performs jazz, rock, and contemporary music at all home basketball games and for other campus activities. Audition required.

MUE 268 Jazz Band (Credits: 1)

A jazz performance-oriented group. Students learn elements of ensemble execution, professionalism, jazz history, jazz styles, and jazz improvisation. Audition required.

MUE 269 Wind Symphony (Credits: 1)

Performs original compositions and transcriptions for band and wind ensembles. Audition required.

MUE 270 University/Community Orchestra (Credits: 1)

Performs orchestral music of all styles and periods.

MUE 277 Chamber Orchestra (Credits: 1)

Instrumental ensemble, consisting primarily of strings and varying combinations of wind and percussion instruments, devoted to the study and performance of music written for that medium.

MUE 290 University Chorus (Credits: 1)

Development of choral and vocal skills. Choral literature from a wide range of historical and compositional styles. No audition required.

MUE 292 Vocal Jazz Ensemble (Credits: 1)

Development of performance skills in vocal jazz. Emphasis on jazz style and techniques, improvisation, and jazz theory. Audition required.

MUE 293 University Men's Chorale (Credits: 1)

Development of advanced choral and vocal skills. Emphasis on advanced choral literature from a wide range of historical and compositional styles. Audition required.

MUE 294 University Women's Chorale (Credits: 1)

Development of advanced choral and vocal skills. Emphasis on advanced choral literature from a wide range of historical and compositional styles. Audition required.

MUE 295 Chamber Singers (Credits: 1)

Development of advanced choral and vocal skills. Emphasis on advanced vocal chamber literature from 15th through 20th centuries. Audition required.

MUE 297 Paul L. Dunbar Chorale (Credits: 1)

A choral ensemble for students who desire to explore the musical style of gospel music and its roots and various forms. Includes performances of a body of literature associated with the African American church to the university and surrounding communities.

MUE 299 Collegiate Chorale (Credits: 1)

Development of advanced choral and vocal skills. Emphasis on advanced choral concert repertoire representing a wide range of historical and compositional styles. Audition required.

MUE 405 Chamber Music (Credits: 1)

Audition required.

MUE 444 University Brass Choir (Credits: 1)

A performance-oriented group which provides students with chamber brass music experience. Students learn elements of ensemble execution, professionalism, brass music history, orchestral styles, and sound production. Audition required.

MUE 445 Collegium Musicum (Credits: 1)

Collegium Musicum is the generic term for an instrumental and vocal ensemble devoted to the study and performance of early music, that was written before 1750. One period (Medieval, Renaissance, Baroque) will be emphasized each quarter.

MUE 446 University Saxophone Quartet (Credits: 1)

Performs saxophone quartet repertoire ranging from classic to jazz to contemporary. Audition and course instructor permission required.

MUE 447 University Flute Choir (Credits: 1)

Performs music of all time periods and styles originally composed for this instrumentation as well as transcriptions of masterworks.

MUE 448 University Clarinet Choir (Credits: 1)

Performs music of all time periods and styles originally composed for this instrumentation as well as transcriptions of masterworks.

MUE 449 Chamber Players (Credits: 1)

Open only to music majors or minors. All students must have auditioned for and have received departmental approval before registering for applied music.

MUE 466 Concert Band (Credits: 1)

Performs band music of all styles. Open to all students without audition.

MUE 467 Pep Band (Credits: 1)

Performs jazz, rock, and contemporary music at all home basketball games and for other campus activities. Audition required.

MUE 468 Jazz Band (Credits: 1)

A jazz performance-oriented group. Students learn elements of ensemble execution, professionalism, jazz history, jazz styles, and jazz improvisation. Audition required.

MUE 469 Wind Symphony (Credits: 1)

Performs original compositions and transcriptions for band and wind ensembles. Audition required.

MUE 470 University/Community Orchestra (Credits: 1)

Performs orchestral music of all styles and periods.

MUE 477 Chamber Orchestra (Credits: 1)

Instrumental ensemble, consisting primarily of strings and varying combinations of wind and percussion instruments, devoted to the study and performance of music written for that medium. Audition required.

MUE 490 University Chorus (Credits: 1)

Development of choral and vocal skills. Choral literature from a wide range of historical and compositional styles. No audition required.

MUE 492 Vocal Jazz Ensemble (Credits: 1)

Development of performance skills in vocal jazz. Emphasis on jazz style and techniques, improvisation, and jazz theory. Audition required.

MUE 493 University Men's Chorale (Credits: 1)

Development of advanced choral and vocal skills. Emphasis on advanced choral literature from a wide range of historical and compositional styles. Audition required.

MUE 494 University Women's Chorale (Credits: 1)

Development of advanced choral and vocal skills. Emphasis on advanced choral literature from a wide range of historical and compositional styles. Audition required.

MUE 495 Chamber Singers (Credits: 1)

Development of advanced choral and vocal skills. Emphasis on advanced vocal chamber literature from 15th through 20th centuries. Audition required.

MUE 497 Paul L. Dunbar Chorale (Credits: 1)

A choral ensemble exploring the musical style of gospel music and its roots and various forms. Includes on- and off-campus performances of a body of literature associated with the African American church. Audition required.

MUE 499 Collegiate Chorale (Credits: 1)

Development of advanced choral and vocal skills. Emphasis on advanced choral concert repertoire representing a wide range of historical and compositional styles. Audition required.

Music/MUS

MUS 101 Theory of Music (Credits: 3)

Theoretical study of music including written exercises, form and analysis, and harmony.

MUS 102 Theory of Music (Credits: 3)

Theoretical study of music including written exercises, form and analysis, and harmony. Prerequisite: MUS 101 and MUS 151

MUS 103 Theory of Music (Credits: 3)

Theoretical study of music including written exercises, form and analysis, and harmony. Prerequisite: MUS 102 and MUS 152

MUS 111 Vocal Technique and Diction (Credits: 1)

Vocal English and Italian diction taught with an emphasis on the IPA phonetic language. Discussion and development of vocal technique, terminology, and anatomy.

MUS 112 Vocal Technique and Diction (Credits: 1)

Vocal English and Italian diction taught with an emphasis on the IPA phonetic language. Discussion and development of vocal technique, terminology, and anatomy. Prerequisite: MUS 111

MUS 113 Vocal Technique and Diction (Credits: 1)

Vocal English and Italian diction taught with an emphasis on the IPA phonetic language. Discussion and development of vocal technique, terminology, and anatomy. Prerequisite: MUS 112

MUS 114 Fundamentals of Music Theory (Credits: 3)

Study of basic materials, notation, and reading of music for students with little or no previous music training.

MUS 117 Music Listening IV: Jazz (Credits: 3)

Historical survey of jazz and related styles from the late 19th century to the present.

MUS 118 Popular Musical Theatre (Credits: 3)

Survey of popular musical theatre from its origin in classic comic opera to the present. Emphasis on the Broadway musical since the 1940s.

MUS 121 Music Listening (Credits: 2)

Listening skills and aural analysis through musical examples from a variety of periods and cultures. Principal styles, genres, and composers of Western music from the middle ages to the present.

MUS 122 Music Listening (Credits: 2)

Listening skills and aural analysis through musical examples from a variety of periods and cultures. Principal styles, genres, and composers of Western music from the middle ages to the present. Prerequisite: MUS 121

MUS 125 Beginning Piano I (Credits: 1)

For non-music majors, class instruction in basic keyboard skills, rudiments of music theory, and beginning sight reading.

MUS 126 Beginning Piano II (Credits: 1)

Continuation of MUS 125. Development of additional keyboard skills. Study of melody, harmony, and rhythm. Prerequisite: MUS 125

MUS 127 Beginning Piano III (Credits: 1)

Continuation of MUS 126. Performance of simple music and application of knowledge of musical elements through performance. Prerequisite: MUS 126

312 Course Descriptions

MUS 131 Beginning Guitar Class I (Credits: 1)

Focuses on the development of good playing habits through melody and chord playing. Tuning, care of the guitar, and tablature reading covered, various guitar styles demonstrated. Students provide own instruments. Electric guitars not suitable.

MUS 132 Beginning Guitar Class II (Credits: 1)

Based on technique covered in MUS 131, this class concentrates on note-reading, more chords, and accompaniment styles.
Prerequisite: MUS 131

MUS 133 Beginning Guitar Class III (Credits: 1)

Based on technique covered in MUS 132, this class concentrates on note-reading, more chords, and accompaniment styles, and some aspects of theory.
Prerequisite: MUS 132

MUS 151 Sight Singing and Dictation (Credits: 1)

The study of sight singing and techniques for hearing and notating melody and harmony.

MUS 152 Sight Singing and Dictation (Credits: 1)

The study of sight singing and techniques for hearing and notating melody and harmony.
Prerequisite: MUS 101 and MUS 151

MUS 153 Sight Singing and Dictation (Credits: 1)

The study of sight singing and techniques for hearing and notating melody and harmony.
Prerequisite: MUS 152 and MUS 102

MUS 155 Keyboard Musicianship (Credits: 1)

Class instruction in functional keyboard skills including technique, chord construction and connection, improvisation, harmonization, playing by ear, sight reading, score reading, ensemble playing, and performing repertoire pieces.

MUS 156 Keyboard Musicianship (Credits: 1)

Class instruction in functional keyboard skills including technique, chord construction and connection, improvisation, harmonization, playing by ear, sight reading, score reading, ensemble playing, and performing repertoire pieces.

MUS 157 Keyboard Musicianship (Credits: 1)

Class instruction in functional keyboard skills including technique, chord construction and connection, improvisation, harmonization, playing by ear, sight reading, score reading, ensemble playing, and performing repertoire pieces.
Prerequisite: MUS 156 and MUS 102

MUS 198 Introduction to Music Technology (Credits: 2)

Introductory elements of software notation, sound recording/editing and using technology as a practice tool.

MUS 199 Introduction of Music Education (Credits: 2)

Introduction to the social, historical and philosophical foundations of music education. Includes overview of the music teaching profession, including basic terminology, examination of necessary skills and dispositions, curricular issues, and instructional procedures.

MUS 201 Music Theory (Credits: 3)

Continuation of MUS 101, 102, 103. Part-writing, analysis, and harmony on a more advanced level.
Prerequisite: MUS 103 and MUS 153

MUS 202 Music Theory (Credits: 3)

Continuation of MUS 101, 102, 103. Part-writing, analysis, and harmony on a more advanced level.
Prerequisite: MUS 201 and MUS 251

MUS 203 Music Theory (Credits: 3)

Continuation of MUS 101, 102, 103. Part-writing, analysis, and harmony on a more advanced level.
Prerequisite: MUS 202 and MUS 252

MUS 214 Music in Western Culture (Credits: 4)

Introduction to the music of Western culture from the Middle Ages to the present. Emphasis on listening skills; elements of music; major styles, genres, and composers; and cultural context.

MUS 215 String Methods I (Credits: 1)

The study of materials, equipment, and class instruction in basic playing and teaching string instruments.

MUS 216 String Methods II (Credits: 1)

The study of materials, equipment, and class instruction in basic playing and teaching string instruments.
Prerequisite: MUS 215

MUS 223 Methods—Music Marching Bands (Credits: 3)

Materials, techniques, and administration of marching bands in the public school.

MUS 224 High Brass Methods (Credits: 1)

Class instruction, materials, and pedagogy for trumpet and horn. Instrument music majors only.

MUS 225 Low Brass Methods (Credits: 1)

Class instruction. Materials and pedagogy for trombone and tuba. Instrumental music education majors only.

MUS 226 Elementary Brass Methods (Credits: 1)

General survey of brass instruments. Vocal and string majors only.

MUS 227 Woodwind Methods I (Credits: 1)

The study of materials, equipment, and class instruction in playing and teaching woodwind instruments in public school.

MUS 228 Woodwind Methods II (Credits: 1)

The study of materials, equipment, and class instruction in playing and teaching woodwind instruments in the public school.
Prerequisite: MUS 227

MUS 229 Elementary Woodwinds (Credits: 1)
General survey of woodwind instruments for vocal and string methods. String or vocal majors only.

MUS 231 Percussion Instruments (Credits: 1)
Class instruction. Materials and pedagogy.

MUS 251 Sight Singing and Diction (Credits: 1)
Continuation of MUS 153.
Prerequisite: MUS 103 and MUS 153

MUS 252 Sight Singing and Diction (Credits: 1)
Continuation of MUS 251.
Prerequisite: MUS 201 and MUS 251

MUS 253 Sight Singing and Diction (Credits: 1)
Continuation of MUS 252.
Prerequisite: MUS 202 and MUS 252

MUS 255 Keyboard Musicianship (Credits: 1)
Class instruction in functional keyboard skills.
Continuation of MUS 157.

MUS 256 Keyboard Musicianship (Credits: 1)
Class instruction in functional keyboard skills.
Continuation of MUS 157.

MUS 257 Keyboard Musicianship (Credits: 1)
Class instruction in functional keyboard skills.
Continuation of MUS 157.
Prerequisite: MUS 256 and MUS 202

MUS 261 Pronunciation—Foreign Language (Credits: 2)
For students of singing. Application of the International Phonetic Alphabet to German and French. Includes intensive readings of song lyrics.

MUS 262 Pronunciation—Foreign Language (Credits: 2)
For students of singing. Application of the International Phonetic Alphabet to German and French. Includes intensive readings of song lyrics.

MUS 281 Jazz Improvisation I (Credits: 1)
Basic fundamental scales and principles associated with the jazz tradition. Includes the study and performance of the blues, minor pentatonic, minor seventh, and major scales.

MUS 282 Jazz Improvisation II (Credits: 1)
Study and performance of the cycle of fifths through technical jazz exercises designed to complement the highly syncopated rhythms and non-diatonic melodies found in the music of the Bebop era.

MUS 283 Jazz Improvisation III (Credits: 1)
Introduces popular jazz riffs that have become standard practice among jazz artists of all periods and focuses on grace notes, diminished scales, diminished whole-tone scales, and transcribed jazz solos.

MUS 284 Advanced Jazz Improvisation (Credits: 1)
Introduces both the technical and psychological artistic approach to sound production relating to jazz music and examines important recordings from various periods of jazz history.

MUS 290 African American Music: America and Beyond (Credits: 4)
Survey of the development of African American music from a historical, sociological, and cultural perspective. Included will be an analysis of the genres, influences, and impact on American and world culture.

MUS 311 History of Music (Credits: 3)
From ancient and medieval periods through the 20th century.
Prerequisite: MUS 103 and MUS 121 and MUS 153

MUS 312 History of Music (Credits: 3)
From ancient and medieval periods through the 20th century.
Prerequisite: MUS 103 and MUS 122 and MUS 153

MUS 313 History of Music (Credits: 3)
From ancient and medieval periods through the 20th century.
Prerequisite: MUS 103 and MUS 122 and MUS 153

MUS 316 Piano Pedagogy I (Credits: 3)
History of piano pedagogy. Overview of the teaching and learning process. Study of methods and materials for use with students of various age groups during their first years of piano studies.
Prerequisite: MUS 103 and MUS 122 and MUS 153

MUS 317 Piano Pedagogy II (Credits: 3)
Investigation of individual and group procedures for teaching, rhythm, music reading, pianistic technique, elementary improvisation, and artistic expression. Discussion of repertoire and anthologies.
Prerequisite: MUS 316

MUS 323 Instrumental Music Education Methods I (Credits: 2)
Foundations of instrumental music education.
Prerequisite: MUS 103 and MUS 153

MUS 324 Instrumental Music Education Methods II (Credits: 2)
This course will build on issues raised in MUS 323 and cover techniques, materials, and methods for the school instrumental music program.
Prerequisite: MUS 323

MUS 325 Instrumental Music Education Methods III (Credits: 2)
This course will equip prospective teachers and future instrumental conductors with practical and artistic applications, pedagogical techniques, materials, methods, and literature for school instrumental music programs.
Prerequisite: MUS 323 and MUS 324

314 Course Descriptions

MUS 327 Choral Methods I (Credits: 2)

Materials and methods for choral music education students with primary focus on elementary and middle school settings.

Prerequisite: MUS 335

MUS 328 Music in the Elementary School (Credits: 3)

Materials, techniques, organization, and administration of vocal and general music programs in the public school. Reading components and teaching strategies included.

Prerequisite: MUS 203 and MUS 253

MUS 329 Choral Methods II (Credits: 2)

Materials and methods for choral general music students with primary focus on junior high and high school settings.

Prerequisite: MUS 327

MUS 330 Choral Methods III (Credits: 2)

Materials and methods for choral general music students with primary focus on high school settings.

Prerequisite: MUS 329

MUS 335 Basic Conducting (Credits: 2)

Basic baton technique and score reading for choral and instrumental conducting.

Prerequisite: MUS 102 and MUS 152

MUS 336 Instrumental Conducting I (Credits: 2)

This course is designed to enable the student to develop basic knowledge and skills relating to conducting instrumental ensembles in a variety of settings. Combination of lecture, seminar, and lab.

Prerequisite: MUS 335

MUS 337 Instrumental Conducting II (Credits: 2)

This course is designed to enable the student to develop intermediate level knowledge and skills relating to conducting instrumental ensembles in a variety of settings. Combination of lecture, seminar and lab.

Prerequisite: MUS 336

MUS 338 Instrumental Conducting III (Credits: 2)

Continuation of Music 337. Emphasis on rehearsal techniques, comprehensive musicianship, and performance practices. For music majors.

Prerequisite: MUS 337

MUS 339 Choral Conducting I (Credits: 2)

This course is designed to enable the student to develop basic knowledge and skills relating to conducting choral ensembles in a variety of levels and settings. Combination of lecture, seminar, and lab.

Prerequisite: MUS 335

MUS 340 Choral Conducting II (Credits: 2)

This course is designed to enable the student to develop basic knowledge and skills relating to conducting choral ensembles in a variety of levels and settings. Combination of lecture, seminar, and lab.

Prerequisite: MUS 339

MUS 341 Choral Conducting III (Credits: 2)

This course is designed to enable the student to develop basic knowledge and skills relating to conducting choral ensembles in a variety of levels and settings. Combination of lecture, seminar, and lab.

Prerequisite: MUS 340

MUS 342 Form and Analysis (Credits: 3)

Harmonic and formal analysis: motive, phrase, periods, and binary and ternary forms.

Prerequisite: MUS 203 and MUS 253

MUS 343 Orchestration (Credits: 2)

Tone quality and ranges of orchestral instruments; voice qualities and ranges of choral ensembles; and written assignments in each area.

Prerequisite: MUS 203

MUS 355 Keyboard Musicianship (Credits: 1)

This course provides vocal music education majors with functional and technical keyboard skills needed for successful choral music classroom instruction.

Prerequisite: MUS 257

MUS 356 Keyboard Musicianship (Credits: 1)

This course provides vocal music education majors with functional and technical keyboard skills needed for successful choral music classroom instruction.

Prerequisite: MUS 355

MUS 357 Keyboard Musicianship (Credits: 1)

This course provides vocal music education majors with functional and technical keyboard skills needed for successful choral music classroom instruction.

Prerequisite: MUS 356

MUS 365 Methods and Materials for Teaching General Music in Grades K-6 (Credits: 4)

Materials and methods for teaching general music in grades K-6. Laboratory session required in addition to regular class meeting times for the purpose of developing skills in sight singing and in the use of traditional classroom instruments.

MUS 371 Composition (Credits: 3)

Creative writing in smaller forms for a variety of media. Includes the exploration of various composition styles.

Prerequisite: MUS 203

MUS 372 Composition (Credits: 3)

Creative writing in smaller forms for a variety of media.

Prerequisite: MUS 371

MUS 373 Composition (Credits: 3)

Creative writing in smaller forms for a variety of media. Includes the exploration of various composition styles.

Prerequisite: MUS 372

MUS 381 Electronic Music Composition (Credits: 3)
Composition using electronically generated and manipulated sounds. Includes a historical survey of styles and an exploration of tape and synthesizer techniques.
Prerequisite: MUS 373

MUS 382 Electronic Music Composition (Credits: 3)
Composition using electronically generated and manipulated sounds. Includes a historical survey of styles and an exploration of tape and synthesizer techniques.
Prerequisite: MUS 381

MUS 383 Electronic Music Composition (Credits: 3)
Composition using electronically generated and manipulated sounds. Includes a historical survey of styles and an exploration of tape and synthesizer techniques.
Prerequisite: MUS 382

MUS 401 Teaching Music in a Pluralistic Society (Credits: 3)
Orientation to teaching in a pluralistic society and awareness of the total global community. Examination of social and philosophical foundations as they relate to teaching music in diverse settings and situations.
Prerequisite: MUS 328

MUS 414 Introduction to Research in Music (Credits: 3)
Methods of scholarly investigation in music history, theory, and education; music bibliography; emphasis on individual projects and reports.
Prerequisite: MUS 122

MUS 420 Opera Production and Coaching (Credits: 2)
For advanced singers in the production of opera; culminates in public performance. Individual coaching for major role assignment. Study and involvement in technical areas of production: set design, building, properties, and costumes. May include participation in Dayton Opera productions.

MUS 424 History of Music Theory (Credits: 3)
Survey of music theory from Jean Philippe Rameau to the present. Traces lines of thought that have had significant influence on musical study in the 20th century.
Prerequisite: MUS 203 and MUS 313

MUS 425 Senior Theory Seminar (Credits: 3)
In depth study of selected topics in music theory. Students will be involved in individual faculty-directed projects which culminate in a class presentation and a research paper.

MUS 430 Improving Reading Through the Music Content Area (Credits: 4.5)
This course provides multi-age music teachers with reading and writing strategies to help solve problems encountered in grades K-12. Language art skills and strategies are taught to help students communicate more effectively across the curriculum.

MUS 433 Canon and Fugue (Credits: 3)
Selection of and research in some of the problems in vocal and instrumental teaching and supervision.
Prerequisite: MUS 303 and MUS 432

MUS 435 Studies in Music Literature (Credits: 3)
Courses in various aspects of the literature of music, such as symphonic literature or chamber literature, or focusing on a composer or nationality. Topics vary.
Prerequisite: MUS 203 and MUS 253 and MUS 313

MUS 436 Counterpoint (Credits: 3)
Introduction to contrapuntal techniques. Exercises in species counterpoint, imitation and fugal devices. Analysis of examples from the Renaissance to the 20th century.

MUS 441 Pedagogy (Credits: 1)
Fundamental problems involved in studio teaching. Critical analysis of teaching materials. Observation and practice in private teaching required.

MUS 442 Pedagogy (Credits: 1)
Fundamental problems involved in studio teaching. Critical analysis of teaching materials. Observation and practice in private teaching required.
Prerequisite: MUS 441

MUS 443 Vocal Pedagogy I (Credits: 2)
This course is designed to make students familiar with physiological and psychological aspects of voice so they will better understand their own instruments and will be better equipped to teach others.
Prerequisite: MUS 243 or MUA 223

MUS 444 Vocal Pedagogy II (Credits: 2)
A continuation of the physiological and psychological aspects of vocal student presented in MUS 443.
Prerequisite: MUS 443

MUS 446 Medieval and Renaissance Music (Credits: 3)
Includes critical analysis of representative works from major composers.
Prerequisite: MUS 203 and MUS 313

MUS 447 Baroque Music (Credits: 3)
Includes critical analysis of representative works from major composers.
Prerequisite: MUS 203 and MUS 313

MUS 448 Classic and Romantic Music (Credits: 3)
Includes critical analysis of representative works from major composers.
Prerequisite: MUS 203 and MUS 313

MUS 451 Piano Literature (Credits: 3)
Historical survey of music for piano from origins in clavichord and harpsichord in the Renaissance through the 20th century.

MUS 452 Piano Literature (Credits: 3)

Historical survey of music for piano from origins in clavichord and harpsichord in the Renaissance through the 20th century.

MUS 453 Piano Literature (Credits: 3)

Historical survey of music for piano from origins in clavichord and harpsichord in the Renaissance through the 20th century.

MUS 455 Vocal Literature (Credits: 3)

Survey of vocal literature from the 18th through the 20th century emphasizing German lieder, French melodie, English and American art songs, opera, and oratorio. For music majors only. Prerequisite: MUS 313

MUS 456 Vocal Literature (Credits: 3)

Survey of vocal literature from the 18th through the 20th century emphasizing German lieder, French melodie, English and American art songs, opera, and oratorio. For music majors only. Prerequisite: MUS 455

MUS 457 Vocal Literature (Credits: 3)

Survey of vocal literature from the 18th through the 20th century emphasizing German lieder, French melodie, English and American art songs, opera, and oratorio. For music majors only. Prerequisite: MUS 456

MUS 461 American Music (Credits: 3)

Music in the United States from 1620 to the present, with emphasis on national idioms and native composition. Prerequisite: MUS 121 and MUS 122 and MUS 201 and MUS 202 and MUS 203

MUS 465 Computer Applications in Music (Credits: 3)

Study of computer technology and music software applications. Emphasis is placed upon using MIDI for electronic score notation, sequencing, and basic courseware design. Prerequisite: MUS 203 and MUS 253

MUS 471 Advanced Composition (Credits: 3)

Creative writing that encompasses a variety of media and forms. Includes style exploration and the development of a personal style. Prerequisite: MUS 201 and MUS 301

MUS 472 Advanced Composition (Credits: 3)

Creative writing that encompasses a variety of media and forms. Includes style exploration and the development of a personal style. Prerequisite: MUS 471

MUS 473 Advanced Composition (Credits: 3)

Creative writing that encompasses a variety of media and forms. Includes style exploration and the development of a personal style. Prerequisite: MUS 203 and MUS 303 and MUS 472

MUS 480 Workshops in Music (Credits: 1 to 4)

Study of selected special topics or problems in music, or special areas of music teaching. Titles vary.

MUS 481 Adv Studies in Spec Subjects (Credits: 1 to 6)

Directed research. May be taken for a letter grade or pass/unsatisfactory.

Nursing/NUR

NUR 114 Nursing elective (Credits: 2 to 3)

Special topics.

NUR 209 Introduction to Professional Nursing (Credits: 4)

Explores history of nursing, its response to society, and evolution of contemporary nursing. Emphasizes past, present, and future roles based on selected concepts, models, and theories within the health care system.

NUR 210 Introduction to Nursing Informatics (Credits: 2)

Introduction to trends and issues of informatics in nursing and health care with an emphasis on effective use of hardware and software in information technology. Laboratory experience included.

NUR 212 Nursing for Health and Wellness Lifestyle (Credits: 4)

Emphasizes concepts, models, theories, and methodologies consistent with a philosophy of health and wellness. Incorporates self-directed activities to promote maximum health in self and others.

NUR 217 Health Assessment Across the Lifespan (Credits: 6)

Focuses on skills and related concepts basic to clinical practice. Integrates health assessment skills into nursing care and development of nursing diagnosis. Communication for documentation of data base is stressed. Prerequisite: NUR 212 and ANT 202 and P&B 301 and NUR 210 and NUR 217L

NUR 218 Introduction to Clinical Nursing (Credits: 6)

Focuses on skills and related concepts basic to clinical practice. Integrates health assessment skills into nursing care and development of nursing diagnosis. Communication for documentation of data base is stressed. Prerequisite: NUR 217 and P&B 302 and BMB 250 and NUR 306 and NUR 218L

NUR 304 Foundations in Nursing Research (Credits: 1 to 3)

Introduces the basic elements of the research process. Emphasizes the critique and application of research findings to professional nursing practice. Prerequisite: NUR 218, STT 160 or equivalent. Prerequisite: NUR 218 and STT 160

NUR 305 Legal and Ethical Foundations for Nursing Practice (Credits: 3)

Examines the theoretical basis of ethical decision making and legal elements of professional nursing practice. Prepares the student for clinical application experience in succeeding courses.
Prerequisite: NUR 218

NUR 306 Concepts—Altered Health Status (Credits: 3)

Focuses on the relationship of normal body functioning and the physiological changes that occur as a result of illness including the body's compensatory mechanisms. Emphasis is placed on alterations in body function and system/organ failure.

Prerequisite: ANT 202 and P&B 302 and CHM 102

NUR 307 Foundations of Family and Group Nursing (Credits: 4)

Foundational course in family development from the perspective of family nursing science. Explores impact of environmental influences on family health. Theoretical frameworks guiding the culturally sensitive study and practice of group work will be examined.

Prerequisite: NUR 218

NUR 308 Theories and Concepts of Professional Nursing (Credits: 5)

Introductory course oriented toward the continued socialization of the professional nurse with synthesis of concepts, theories, processes, and models to facilitate transition into professional nursing. For registered nurses only.

NUR 317 Selected Topics (Credits: 3 to 4)

Topics vary.

NUR 321 Adult Health and Illness (Credits: 7)

A clinical course which focuses on adults across the lifespan with altered health states. Emphasis is on providing secondary preventive care in a variety of settings.

Prerequisite: NUR 218 and PHR 340 and PSY 341

NUR 322 Nursing Care of Childbearing Families (Credits: 7)

A clinical course focusing on the understanding and application of selected concepts related to the childbearing family in the maternity cycle.

Prerequisite: NUR 321 and NUR 304 and NUR 305

NUR 323 Nursing Care of Childrearing Families (Credits: 7)

A clinical course focusing on children and adolescents in families with a variety of health states in various health care settings.

Prerequisite: NUR 321 and NUR 304 and NUR 305

NUR 324 Nursing Care of Aging/Aged Families (Credits: 7)

Examines theories, trends, and research in gerontological nursing. Examines the aging self, holistic health and independent function, hospitalization, and nursing management of illness in the aged. Explores advocacy for vulnerable aged.

Prerequisite: NUR 307 and NUR 321

NUR 405 Nursing Care of Aging/Aged Families (Credits: 3)

Examines theories, trends, and research in gerontological nursing. Examines the healthy aged, holistic health and independent function, hospitalization and nursing management of illness in the aged. Explores advocacy for vulnerable aged.

Prerequisite: NUR 210 and NUR 304 and NUR 307 and NUR 308

NUR 406 Contemporary Nursing Issues and Health Policy (Credits: 2 to 3)

Examines global aspects of the social, political, legal, ethical, and environmental issues influencing health care, health policy, and advancement of the nursing profession. Professional issues confronting contemporary nursing are emphasized.

Prerequisite: NUR 322 and NUR 323 and NUR 324

NUR 407 Nursing Leadership and Management in Health Care (Credits: 2 to 3)

Examination of theories and strategies of leadership and management in the realm of health care.

Prerequisite: NUR 322 and NUR 323 and NUR 324

NUR 414 Nursing Elective (Credits: 1 to 12)

Topics vary.

Prerequisite: NUR 218

NUR 415 Independent Study (Credits: 1 to 4)

Faculty-directed, individualized study on student-selected topics. Permission of faculty required.

Prerequisite: NUR 218

NUR 421 Nursing—Mental Health System (Credits: 7)

Focuses on primary, secondary, and tertiary prevention of mental health problems with individuals, families, and groups. Foundations of psychosocial nursing practice are developed. Cultural, biosocial, and sociopolitical forces affecting mental health systems are analyzed.

Prerequisite: NUR 322 and NUR 323 and NUR 324

318 Course Descriptions

NUR 422 Nursing in Community Health Systems (Credits: 7)

Clinical course integrating nursing and public health concepts/trends to assess community health needs. Primary, secondary, and tertiary prevention for health of individuals, families, groups, and communities affected by social, political, and environmental forces are stressed.
Prerequisite: NUR 322 and NUR 323 and NUR 324

NUR 423 High Acuity Nursing in Complex Health Systems (Credits: 7)

A clinical course focusing on individuals experiencing life-threatening physiological crises. Integrates physiological, family, and community knowledge with concepts of high acuity care in a variety of settings.
Prerequisite: NUR 322 and NUR 323 and NUR 324

NUR 424 Synthesis Practicum in Professional Nursing (Credits: 10)

Clinical course which assists students in integration of theory and practice with emphasis on complexity of design and management of nursing care for individuals, families, and groups. Provides concentrated clinical practice in selected clinical areas. 180 hours of clinical to be arranged.
Prerequisite: NUR 421 and NUR 422 and NUR 423

NUR 425 Synthesis Practicum in Professional Nursing (Credits: 4.5)

Integration of theories and concepts for transition into professional practice with the evolution of a personal philosophy of nursing.
Prerequisite: NUR 406 and NUR 407 and NUR 422

NUR 445 Clinical Nursing V: Synthesis Practicum (Credits: 9)

Clinical course assisting students to integrate theory and practice; emphasis on complexity of design and management of nursing care for individuals, families and groups. Concentrated clinical practice in selected clinical areas.
Prerequisite: NUR 444 and NUR 716 and NUR 750 and NUR 751 and NUR 755 and NUR 763

NUR 446 Clinical Nursing: Childbearing (Credits: 6)

Introduction to role and practice of nurses in providing care during childbearing. Professional standards of practice, nursing skills, diagnoses and interventions and evaluation related to professional standards of practice.
Prerequisite: NUR 306 and NUR 441 and NUR 450 and NUR 462

NUR 447 Clinical Nursing: Childrearing (Credits: 6)

Introduction to role and practice of nurses in providing care during childrearing. Professional standards of practice, nursing skills, diagnoses and interventions and evaluation related to professional standards of practice.
Prerequisite: NUR 306 and NUR 441 and NUR 450 and NUR 462

NUR 448 Clinical Nursing: Mental Health (Credits: 6)

Introduction to role and practice of providing nursing care related to mental health including skills, diagnoses, interventions and evaluation related to professional standards.
Prerequisite: NUR 306 and NUR 441 and NUR 450 and NUR 462

NUR 449 Clinical Nursing: Community Health (Credits: 6)

Introduction to role and practice of providing nursing care related to community health including nursing skills, diagnoses, interventions and evaluation related to professional standards.
Prerequisite: NUR 306 and NUR 441 and NUR 450 and NUR 462

NUR 452 Beacon Seminar 2 (Credits: 2)

Seminar on role of nurses in meeting national health goals in caring for clients during childbearing and childrearing. Guidelines for practice and success strategies in caring for self and others.
Prerequisite: NUR 441

NUR 453 Beacon Seminar 3 (Credits: 1)

Seminar on role of nurses in meeting national health goals in community and mental health care. Guidelines for practice and success strategies in caring for self and others.
Prerequisite: NUR 442

NUR 454 Beacon Seminar 4 (Credits: 1)

Seminar on role of nurses in meeting national health goals in community and mental health care. Guidelines for practice and success strategies in caring for self and others.
Prerequisite: NUR 443

NUR 455 Beacon Seminar 5 (Credits: 1)

Seminar on synthesis of theory and practice, emphasis on case studies applied to standards of nursing care and professional performance.
Prerequisite: NUR 441 and NUR 442 and NUR 443 and NUR 444

NUR 462 Advanced Health Assessment (Credits: 2 to 3)

Expands RN's knowledge of history taking and physical assessment as it relates to clients across the lifespan and in a variety of settings. RNs admitted to completion program only.

NUR 498 Nursing Honors Seminar (Credits: 2)

Students discuss selected problems, issues, and special topics related to nursing that are not covered in depth during the usual curriculum. Students identify an area of interest and develop a project proposal for in-depth study.
Prerequisite: NUR 304 and NUR 321

NUR 499 Nursing Honors Independent Study (Credits: 1 to 3)

Provides an opportunity for development and completion of an honors project using theories and concepts from the humanities, sciences, and nursing. With guidance of a faculty member, students focus on an area of individual study.
Prerequisite: NUR 498

Organizational Leadership/OL**OL 301 Professional Skills in Organizational Leadership (Credits: 4)**

Within a structured, coherent framework, the course will develop necessary skills in networking, communication and presentation skills. The course includes a survey of related technology and will include internet and electronic mail communication.

OL 302 Contemporary Issues in Leadership (Credits: 4)

This course introduces students to contemporary leadership theories, concepts and issues. Students will examine contemporary societal and organizational forces and challenges that affect modern organizations.

OL 303 Organizational Leadership Assessment (Credits: 4)

This course is designed to provide students with the opportunity to learn appropriate methods for assessment within organizational settings. This includes both individual and organization-wide assessment.

Prerequisite: (EDL 301 or OL 301) and (EDL 302 or OL 302)

OL 304 Developing and Presenting Effective Training (Credits: 4)

This course presents strategies to develop and present effective training. It includes program implementation, assessment, evaluation and supervision.

Prerequisite: (EDL 301 or OL 301) and (EDL 302 and OL 302)

OL 494 Leadership Development Seminar (Credits: 4)

This course provides a capstone experience for students in the Organizational Leadership Program. It focuses on developing the individual as a leader, and prepares the student for workplace marketability and organizational change management.

Prerequisite: (EDL 301 or OL 301) and (EDL 302 or OL 302) and (EDL 303 or OL 303) and (EDL 304 or OL 304)

OL 495 Leadership in Practice: The Capstone (Credits: 4)

In this course, students will draw upon their experiences from all of their organizational leadership courses to demonstrate their competency as administrative leaders by applying and integrating classroom material to an actual administrative problem.

Prerequisite: (EDL 301 or OL 301) and (EDL 302 or OL 302) and (EDL 303 or OL 303) and (EDL 304 or OL 304)

Philosophy/PHL**PHL 124 Social Ethics and Values (Credits: 3)**

Investigation of fundamental ethical issues in our society. Includes such issues as power, law, race, war, population, ecology, violence vs. pacifism, and punishment vs. rehabilitation.

PHL 200 Critical Thinking (Credits: 4)

Introduction to fundamental reasoning skills: recognizing the differences between facts and opinions, distinguishing relevant from irrelevant information, identifying unstated assumptions, detecting bias, recognizing fallacious reasoning, and evaluating claims, definitions, and arguments.

PHL 204 Great Books: Philosophy (Credits: 4)

Introduction to selected great books in the history of Western philosophy chosen from each of three eras (ancient/medieval, modern, and contemporary) and examined both within their respective historical frameworks and as an exercise in critical thinking.

PHL 211 Introduction to Ethics (Credits: 4)

Survey of the important theories concerning the nature of moral value and obligation.

PHL 212 Introduction to Metaphysics (Credits: 3)

Survey of the important theories concerning the nature of reality, mind and body, and freedom and determinism.

PHL 213 Theories of Knowledge (Credits: 3)

Survey of the important theories concerning the origin, structure, methods, certainty, and validity of knowledge.

PHL 215 Inductive Logic (Credits: 4)

Introduction to the techniques of inductive and probabilistic reasoning with emphasis on the problems encountered in attempting to justify those techniques.

PHL 223 Symbolic Logic I (Credits: 4)

Introduction to the techniques of deductive logic including truth-table analysis, the propositional calculus, and predicate logic.

PHL 280 Philosophy of Religion: Faith and Reason (Credits: 3)

Selected cross-disciplinary issues arising from philosophy and religion: Judeo-Christian concept of God, grounds for belief and disbelief, revelation and faith, religious language, verification, immortality and resurrection, and karma and reincarnation. Issues are discussed on the basis of selected texts on faith and reason.

PHL 281 Philosophy of Religion: Contemporary Western Survey (Credits: 3)

Cross-disciplinary perspective on philosophical and religious schools of thought in the early 20th century. Absolute and personal idealism, spirit, value, positivism and naturalism, history and culture, modernism and pragmatism, religious consciousness, and phenomenology.

PHL 301 Ancient Philosophy (Credits: 4)

Pre-Socratics, Plato, Aristotle, Epicureanism, Stoicism, Skepticism, Neo-Platonism. Topics vary.

PHL 302 Medieval Philosophy (Credits: 4)

Augustine, Anselm, Aquinas, Scotus, Occam. Topics vary.

PHL 303 Modern Philosophy (Credits: 4)

Descartes, Spinoza, Leibniz, Locke, Berkeley, Hume, Kant, Hegel, Schopenhauer. Topics vary.

PHL 305 American Philosophy (Credits: 4)

Survey of American philosophy from Jonathan Edwards to John Dewey, including Transcendentalism (Emerson, Thoreau), Idealism (Royce), Pragmatism (Peirce, James), and Naturalism (Santayana, Dewey).

PHL 308 Survey—Analytical Philosophy (Credits: 4)

Major developments in last 100 years from Frege and early views of Moore and Russell; through logical atomism (Russell; Wittgenstein) and logical positivism (Schlick; Carnap; Ayer), to more recent views of such figures as Wittgenstein and Quine.

PHL 309 Metaphysics (Credits: 4)

A examination of problems concerning the nature, constituents and relations of reality.

PHL 310 The Theory of Knowledge (Credits: 4)

An examination of knowledge, belief, justification, and warrant.

PHL 311 Ethics (Credits: 4)

Critical examination of major issues and problems of contemporary philosophical ethics. Concepts of "good," "evil," "right," "wrong," and "justice." Obligations to ourselves and others; praise, blame, punishment, and pardon; meaning and purpose of life.

PHL 312 Moral Problems (Credits: 4)

Investigation and discussion of moral issues as they arise within major areas of society. Emphasis on studies in such areas as medicine, law, family, business, and politics. May be repeated.

PHL 322 Philosophical Logic (Credits: 4)

Concepts which border the philosophy of language, philosophy of mind, and ontology. Sample topics: predication and universals; naming, meaning, and necessity; negation, existence, and truth; logical and semantical paradoxes. Prerequisite: PHL 123

PHL 323 Symbolic Logic II (Credits: 4)

Standard notations, principles of inference, formal systems, and methods of proof. Focus on first-order predicate logic. Prerequisite: PHL 223

PHL 331 Political Philosophy (Credits: 4)

Analysis of classical and contemporary writings in political philosophy; includes such topics as power, sovereignty, the state, and anarchy; equality, justice, law, and liberty; consent, representation, will of the people; political rights and responsibilities.

PHL 332 Studies - Political Philosophy (Credits: 4)

Courses of variable content dealing with topics in ancient and modern political philosophy. May be repeated.

PHL 341 Aesthetics (Credits: 4)

Study of theories concerning the nature of the work of art, aesthetic experience, the arts, and beauty.

PHL 351 Great Scientists and Recent Philosophers (Credits: 4)

Examination of philosophical importance of the theories of evolution, psychoanalysis, dialectical materialism, and space-time relativity.

PHL 371 Business Ethics (Credits: 4)

Case study and discussion of ethical issues involved in business transactions and management.

PHL 378 Ethics and Medicine (Credits: 4)

Examination of ethical issues confronting society in the areas of medicine and health care, from the perspective of philosophical and theological ethics. Examples include ethics of abortion, euthanasia, experimental medicine, and behavior control.

PHL 382 Philosophy of Religion: Process (Credits: 4)

Realism and the revolt against idealism. Cross-disciplinary analysis of major contemporary philosophers and the implications of their thoughts for religion. Focus on Alfred North Whitehead.

PHL 383 Philosophy of Religion: Secular (Credits: 4)

Cross-disciplinary analysis of modes of human awareness through which religious meaning is expressed (sensation, morality, beauty, reason, and human relations). Examination of presuppositions of contemporary secular religion in existentialism.

PHL 394 Existentialism (Credits: 4)

Representative writers of the existentialist movement.

PHL 399 Studies in Selected Subjects (Credits: 1 to 4)
Problems, approaches, and topics in the field of philosophy. Topics vary.

PHL 401 Major Philosophers (Credits: 4)
Introduction to the major writings of outstanding philosophers. Involves presentation and critical examination of the philosophers' views.

PHL 411 Advanced Ethical Theories (Credits: 4)
Critical examination of major theories of value and obligation. The best theory of value and obligation; assessment and measurement of values; the role of values in deliberation and decision-making, and in explanations of behavior.

PHL 414 Philosophy of Law (Credits: 4)
Survey of the important theories concerning the nature and justification of law, liberty, justice, responsibility, and punishment.

PHL 415 Philosophical Problems (Credits: 4)
Detailed examination of one of the outstanding philosophical problems-ancient, medieval, and/or contemporary.

PHL 423 Advanced Logic (Credits: 4)
This course treats logic as an object rather than a subject. Although it contains extensions to higher order logic, its main concern will be with the use of logic and with the limitations of logical systems. Prerequisite: PHL 123 and PHL 323

PHL 424 Mathematical Philosophy (Credits: 4)
Investigation of philosophical theories concerning the nature of mathematics, the ground of mathematical knowledge, the necessity of mathematical truth, the empirical relevance of mathematics, and the relationships between mathematical philosophy and general philosophy.

PHL 425 Philosophy of Language (Credits: 4)
An introduction to different theories of meaning, to different theories of signs, and to the problems of ambiguity, vagueness, denotation, connotation, and metaphor.

PHL 431 Classical and Medieval Political Philosophy (Credits: 4)
Critical examination of political ideas from 500 B.C. to A.D. 1500 with special attention to Plato, Aristotle, Cicero, St. Augustine, St. Thomas Aquinas, Luther, Calvin, and Machiavelli.

PHL 432 Modern Political Philosophy (Credits: 4)
Critical examination of political ideas from 1600 to 1900, with special attention to Hobbes, Locke, Rousseau, Montesquieu, Hume, Burke, Hegel, Bentham, Marx, and Mill.

PHL 442 Philosophy and Literature (Credits: 4)
Examination of philosophical ideas found in literature, philosophical interpretations of literature, and evaluation of theories and aesthetics of literature.

PHL 443 Asian Religious Philosophy (Credits: 4)
Perennial themes in Asian cultures (such as individual, society, and cosmos; appearance and reality; time and history; and karma, freedom, and responsibility) as they have been treated in the philosophical traditions of these cultures.

PHL 465 Advanced Analysis (Credits: 4)
Investigation of certain problems and attempted solutions that have occupied major contemporary Anglo-American philosophers such as Moore, Russell, Wittgenstein, Carnap, Ryle, Austin, Strawson, and Quine.

PHL 467 Philosophy of Mind (Credits: 4)
Classical and contemporary approaches to such issues as the nature of mind, relationships of mind to body, knowledge of other minds, intentionality, perception, and agency.

PHL 471 Philosophy of Physical Science (Credits: 4)
Analysis of views concerning scientific explanation, the logic of theory testing, and the ontological status of theoretical entities; philosophical examination of the concepts of space, time, matter, and motion from classical physics to contemporary relativity.

PHL 472 Philosophy of Social Science (Credits: 4)
Analysis of views concerning concept and theory formation in the social sciences, problems in objectivity and value, justification of *Verstehen*, mechanism vs. teleological explanations, and reductionism.

PHL 481 Independent Reading (Credits: 3 to 4)
Faculty-directed readings in philosophic literature.

PHL 482 Independent Reading (Credits: 3 to 4)
Faculty-directed readings in philosophic literature.

PHL 483 Independent Reading (Credits: 3 to 4)
Faculty-directed readings in philosophic literature.

PHL 495 Metaphysics (Credits: 4)
Investigation of classical and contemporary attempts to develop a theory of the nature of being and reality.

PHL 496 Problems of Knowledge (Credits: 4)
Origin, certainty, and extent of human knowledge.

Pharmacology/PHR

PHR 340 Pharmacology (Credits: 3)
Introduction to general principles of pharmacology, drug classification, and the sites and mode of action of selected drug agents. Prerequisite: CHM 102 and P&B 301 and P&B 302

322 Course Descriptions

PHR 410 Introduction to Pharmacology (Credits: 3)

Covers basic principles of pharmacology, including dose-response relationships, mechanisms of drug action and resistance, the concept of drug receptors and specific binding, and biological transport and distribution of drugs.

Prerequisite: BIO 112 and CHM 211

PHR 495 Honors Research in Pharmacology (Credits: 2 to 5)

Experiential learning for honors program students interested in basic biomedical research. Tutorial with laboratory.

PHR 499 Undergraduate Research (Credits: 2 to 4)

Experiential learning in which students participate in ongoing research projects. Tutorial with laboratory.

Physics/PHY

PHY 101 Principles of Physics Lab (Credits: 1)

Introductory-level laboratory problems.

Corequisite: PHY 111

PHY 102 Principles of Physics Lab (Credits: 1)

Introductory-level laboratory problems.

Corequisite: PHY 112

PHY 103 Principles of Physics Lab (Credits: 1)

Introductory-level laboratory problems.

Corequisite: PHY 113

PHY 105 Sounds and Colors (Credits: 3)

Study of wave motion with an orientation toward phenomena experienced by our senses, such as musical sounds, noise, and the colors occurring in nature.

Corequisite: PHY 115

PHY 106 Planetary Astronomy (Credits: 3)

Introduction to astronomy with emphasis on the solar system. Topics include the earth-moon system, other planets and their satellites, space exploration, and theories for the origin of the solar system.

Corequisite: PHY 116

PHY 107 Stars, Galaxies, and The Cosmos (Credits: 3)

Introduction to astronomy with emphasis on the universe of stars and galaxies. Covers stellar evolution, astrophysics, and cosmology.

Corequisite: PHY 117

PHY 111 Principles of Physics (Credits: 4)

Introduction to the fundamental physics of mechanics. Topics include laws of motion, work and energy, momentum, circular and rotational motion, gravity, and fluids.

Prerequisite: MTH 128 or MTH 129

PHY 112 Principles of Physics (Credits: 4)

Introduction to the fundamental physics of waves, thermodynamic laws, electric charge and field, electric current, and DC circuits.

Prerequisite: PHY 111

PHY 113 Principles of Physics (Credits: 4)

Introduction to the fundamentals of magnetism, optics and modern physics. Topics include magnetic fields, electromagnetic induction, electromagnetic waves, geometric and wave optics, optical instruments, relativity, quantum theory, and nuclear physics.

Prerequisite: PHY 112

PHY 115 Sounds and Colors Laboratory (Credits: 1)

Experiments to illustrate the physical aspects of what we see and hear.

Corequisite: PHY 105

PHY 116 Planetary Astronomy Laboratory (Credits: 1)

Astronomical observations and experiments.

Corequisite: PHY 106

PHY 117 Stars, Galaxies and Cosmos Lab (Credits: 1)

Astronomical observations and measurements, laboratory experiments, and a visit to a planetarium.

Corequisite: PHY 107

PHY 200 General Physics Laboratory (Credits: 1)

Introductory physics laboratory problems in mechanics.

Corequisite: PHY 240

PHY 202 General Physics Laboratory (Credits: 1)

Introductory physics laboratory problems in electricity and magnetism.

Corequisite: PHY 242

PHY 204 General Physics Laboratory (Credits: 1)

Introductory physics laboratory problems in heat, sound, mechanics, and optics.

Prerequisite: PHY 240 and PHY 200 and PHY 244 and PHY 244R

PHY 240 General Physics (Credits: 4)

Introductory survey of mechanics for science and engineering students. Introduces the use of calculus in interpreting physical phenomena. Topics include vectors, kinematics, dynamics, energy, momentum, rotation, and statics. Three hours lecture, one hour recitation.

Prerequisite: MTH 229 or EGR 101

PHY 242 General Physics (Credits: 4)

Introductory survey of electricity and magnetism. Uses calculus in interpreting physical phenomena. Topics include electric field and potential, currents, DC circuits, magnetic fields, and Faraday's law. Three hours lecture, one hour recitation.

Prerequisite: PHY 240 and MTH 230

PHY 244 General Physics (Credits: 5)

Introductory survey of thermodynamics, oscillations and waves, sounds, fluids, gravity, and optics. Calculus is required in interpreting physical phenomena.

Prerequisite: PHY 240 and MTH 230 and PHY 204 and PHY 244R

PHY 245 Concepts in Physics (Credits: 4.5)

An accelerated treatment of fundamental concepts and applications of physics for elementary education majors. Practical observable topics appropriate for presentation to elementary and middle school students will be emphasized. Includes laboratory experiences, demonstrations, and projects.

Prerequisite: MTH 143 and ENG 102 and SM 144

PHY 246 Concepts and Applications in Physics I (Credits: 4.5)

Basic concepts and everyday applications of physics topics including motion, forces and energy. Topics are integrated with Mathematics.

Prerequisite: SM 145 and MTH 143

PHY 260 Introduction to Modern Physics (Credits: 4)

Introduces phenomenology and theoretical concepts of modern physics, such as special theory of relativity and quantum theory; atomic and molecular structure and spectra; x-rays and solid state physics; nuclear structure, reactions, and natural radioactivity; and instrumentation for nuclear physics research. One hour is devoted to demonstrations and recitations.

Prerequisite: PHY 244 and MTH 230

PHY 310 Issues in Science (Credits: 3)

A writing intensive course dealing with issues in science

Prerequisite: ENG 101 and ENG 102

PHY 314 Intermediate Physics (Credits: 2 to 3)

Intermediate-level laboratory problems. Acquaints students with wide variety of experimental techniques in many areas of classical and modern physics.

PHY 315 Physics Instrumentation I (Credits: 3)

Physics laboratory experiments with an emphasis on electrical measurements and electronic instruments. Lectures on circuit theory, experiment design, and electronic instruments. 1.5 hours lecture, three hours lab.

Prerequisite: PHY 260

PHY 316 Physics Instrumentation II (Credits: 3)

Experiments emphasizing electronic instruments applied to areas such as mechanics, atomic physics, and nuclear physics. Lectures on applications of integrated circuits to experimentation, data analysis, and data presentation. 1.5 hours lecture, three hours lab.

Prerequisite: PHY 315

PHY 322 Applied Optics (Credits: 4)

Study of optical instruments by means of both geometrical and physical optics. Theory and application of interferometry and light detection devices. Brief introduction to lasers and holography. Three hours lecture, two hours lab.

Prerequisite: PHY 322L and MTH 253 and PHY 244

PHY 346 Concepts and Applications in Physics II (Credits: 4.5)

Basic concepts and applications in physics including electricity, magnetism, optics, waves, simple machines. Inquiry learning environment emphasizing science process and mathematical reasoning, problem-solving, technology and societal connections.

Prerequisite: PHY 246 and MTH 243 and MTH 244

PHY 371 Analytical Mechanics (Credits: 3)

Intermediate problems in the dynamics of motion in 1, 2, and 3 dimensions. Mathematical and computational approaches are applied to systems with non-constant forces, central forces, and oscillations.

Prerequisite: PHY 244 and MTH 232 and MTH 233

PHY 372 Analytical Mechanics (Credits: 3)

Problems in motion and energy of systems of particles and extended objects. Mathematical and computational approaches, including the Lagrange method, are studied and applied to rigid body motion, and motion in non-inertial coordinate systems.

Prerequisite: PHY 371 and MTH 233

PHY 400 Semiconductor Materials (Credits: 3)

Crystal structure, energy bands, charge carriers, and carrier motion in semiconductors. Electrical and optical properties. P-N junction diodes. Equilibrium, dc, ac, and transient characteristics. Metal-Semiconductor junctions. Device design.

Prerequisite: PHY 240 and PHY 242 and PHY 244 and CHM 121

PHY 401 Semiconductor Device Physics (Credits: 3)

Structure and characteristics of bipolar transistors, field effect transistors, and other selected devices. Design and computer modeling of devices.

Prerequisite: PHY 300 and EP 300

PHY 420 Thermodynamics (Credits: 3)

First and second laws of thermodynamics; general thermodynamic formulas with applications to matter.

Prerequisite: PHY 244 and MTH 231

PHY 421 Statistical Thermodynamics (Credits: 3)

Topics include kinetic theory of gases, Maxwell-Boltzmann statistics, and an introduction to quantum statistics.

Prerequisite: PHY 420

PHY 422 Geophysical Prospecting (Credits: 5)

Introduction to principles of gravity, magnetic, seismic, electrical, and radioactive prospecting. Four hours lecture, two hours lab.

Prerequisite: MTH 229 and PHY 422L

PHY 422 Geophysical Prospecting Lab (Credits:)

Required laboratory for PHY 422.

Prerequisite: PHY 422

PHY 423 Seismic Exploration (Credits: 4)

Study of the theory, observation, and analysis of seismic phenomena as applied to geologic exploration.

Prerequisite: PHY 423L and PHY 422 and MTH 231

PHY 424 Gravity and Magnetic Exploration (Credits: 4)

Study of the theory of the earth's gravitational and magnetic fields and the application of these principles to resource exploration. Three hours lecture, two hours lab.

Prerequisite: PHY 422 and PHY 424L

PHY 425 Topical Concepts—Geophysics (Credits: 4)

Special topics in Geophysics.

Prerequisite: PHY 422 and PHY 425L

PHY 425 Topical Concepts in Geophysics (Credits: 4)

Required laboratory for PHY 425.

Prerequisite: PHY 425

PHY 426 Geophysics Seminar (Credits: 1)

Literature Survey and student presentations on selected topics in geophysics.

Prerequisite: PHY 422

PHY 432 Lasers (Credits: 3)

Introduction to the physics of lasers including emission and absorption processes in lasing, the factors controlling laser gain, the properties of optical resonators, and a survey of salient features for principal types of lasers.

Prerequisite: PHY 260 and MTH 233

PHY 437 Seismic Data Processing (Credits: 4)

Digital filtering, deconvolution and migration of seismic data.

Prerequisite: PHY 423

PHY 440 Introduction to Nanoscience and Nanotechnology (Credits: 4)

Introduction to nanoscience and technology. Topics include introduction to quantum mechanics, fabrication, characterization, materials, electronic properties, optical properties, magnetic properties, devices, MEMS and NEMS.

Prerequisite: PHY 240 and PHY 242 and PHY 244

PHY 442 Physical Optics (Credits: 4)

Interaction of light and matter and interpretation of these phenomena using the electromagnetic wave theory of radiation. Topics include emission, absorption, scattering, polarization, interference, diffraction, coherence, and holography.

Prerequisite: PHY 352 and MTH 333

PHY 445 Integrating Physical Science and Mathematics I (Credits: 4)

Integration of physics and mathematics, including science and math standards, physics education issues, inquiry teaching practices, and assessment addressed in the context of science and math process skills, measurement, and properties of matter.

Prerequisite: PHY 245 or PHY 240

PHY 446 Integrating Physical Science and Mathematics II (Credits: 4)

Integration of physics and math, including science and math standards, physics education issues, inquiry teaching, practices, assessment and technology addressed in the context of kinematics, forces, and energy transfers.

Prerequisite: PHY 445

PHY 447 Integrating Physical Science and Mathematics III (Credits: 4)

Integration of physics and mathematics, science and math standards, physics education issues, inquiry teaching, assessment, technology will be addressed in the context of electricity, magnetism, waves, optics.

Prerequisite: PHY 446

PHY 450 Electricity and Magnetism (Credits: 3)

Fundamental laws of electricity and magnetism from viewpoint of fields. Review of vector analysis; electrostatics; special techniques in electrostatics; magnetostatics.

Prerequisite: MTH 232 and MTH 233 and PHY 242

PHY 451 Electricity and Magnetism (Credits: 3)

Fundamental laws of electricity and magnetism from viewpoint of fields. Electric fields in matter; magnetic fields in matter; electrodynamics; conservation laws.

Prerequisite: PHY 450

PHY 452 Electricity and Magnetism (Credits: 3)

Fundamental laws of electricity and magnetism from viewpoint of fields. Electromagnetic waves; time-dependent potentials and fields; radiation; resonant cavities; waveguides and transmission lines.

Prerequisite: PHY 451

PHY 460 Introduction to Quantum Mechanics (Credits: 4)

Mathematical structure of quantum mechanics. Applications to selected one- and three-dimensional problems with emphasis on atomic structure.

Prerequisite: PHY 260 and PHY 372 and MTH 333

PHY 461 Introduction to Solid State Physics (Credits: 4)

Selected properties of solids and their quantitative explanation in terms of simple physical models. Applications of quantum mechanics to solids.

Three hours lecture, two hours lab.

Prerequisite: PHY 260 and MTH 233

PHY 462 Nuclear and Particle Physics (Credits: 4)

Nuclear properties and models, radioactive decay, nuclear applications, elementary particle properties and interactions, the standard model.

Prerequisite: PHY 460

PHY 470 Selected Topics (Credits: 1 to 4)

Selected topics in physics.

Prerequisite: PHY 372

PHY 480 Introduction to Theoretical Physics (Credits: 4)

Introduction to classical theoretical physics. Emphasis on mechanics and mathematical techniques.

Prerequisite: PHY 372 and PHY 452 and MTH 333

PHY 481 Introduction to Theoretical Physics (Credits: 3)

Continuation of PHY 480. Emphasis on electromagnetic field theory and mathematical techniques.

Prerequisite: PHY 480

PHY 482 Introduction to Theoretical Physics (Credits: 3)

Continuation of PHY 481. Emphasis on electromagnetic field theory and mathematical techniques.

Prerequisite: PHY 481

PHY 494 Senior Projects (Credits: 3)

Selected problems in experimental and theoretical physics with critical analysis of results.

PHY 499 Special Hon Research Problems (Credits: 3)

Special research in a recognized branch of physics, usually related to research carried on by the department. Critical analysis of results required.

Physiology and Biophysics/P&B**P&B 301 Physiology—Health and Disease I (Credits: 4)**

Subject areas include homeostasis; cell, nerve, and muscle function; nervous system regulation; and cardiovascular and circulatory systems.

Prerequisites: ANT 201 and ANT 202 and CHM 102 and MTH 126

P&B 302 Human Physiology II (Credits: 4)

Subject areas include gastrointestinal and metabolic systems; respiratory and renal systems; acid-base balance; endocrinology and temperature regulation.

Prerequisites: P&B 301

P&B 442 Introductory Neurophysiology (Credits: 4)

Studies the physiological mechanisms that subserve the functions of the nervous system.

Topics include the biophysics of neuronal information, intercellular communications, motor control, sensory systems, and developmental neurobiology.

P&B 488 Independent Reading—Physiology (Credits: 1)

Independent reading in physiological literature. A written report is required for each registered period. Optional pass/fail or letter grade.

P&B 499 Special Problems in Physiology (Credits: 1)

Specialized program that gives seniors an opportunity to explore potential careers in physiology. Studies may vary from working with instructor on an ongoing physiological research project to analysis of data obtained from completed research project.

Political Science/PLS**PLS 200 Political Life (Credits: 4)**

Examination of political power relationships in contemporary society. Emphasizes the origins and forms of power and the key social structures exercising power with contemporary public issues. Provides case studies of the consequences of political relationships.

PLS 210 Quantitative Methods of Political Science (Credits: 4)

Uses of quantitative political data with emphasis on contemporary research applications. Survey design and questionnaire construction. Analysis and interpretation of data.

Prerequisite: MTH 102

PLS 211 Empirical Political Analysis (Credits: 4)

Scope and methods of empirical political research; concepts and hypotheses; explanation and prediction; and methodological approaches to the study of politics and political behavior.

Prerequisite: PLS 210

PLS 212 American National Government (Credits: 4)

Introductory survey of American national government including study of political participation, interest groups, political parties, leadership, mass media, elections and campaigns, the Constitution, presidency, Congress, bureaucracy, and the courts.

PLS 222 International Politics (Credits: 4)

Introductory survey of the international political system including study of state and non-state actors, major features of the system, conflict roots and approaches to peace-keeping, and current issues.

Prerequisite: PLS 200

PLS 301 Modern Political Ideologies (Credits: 4)

Systematic analysis of the major political ideologies of the twentieth century with particular attention to democracy, fascism, communism, and nationalism.

PLS 305 Comparative Marxist Theory (Credits: 4)

Critical examination of the chief theories developed by Marx, Engels, Lenin, Stalin, Mao Tse-Tung, Castro, and various revisionists. Emphasis on Soviet and Chinese ideologies.

PLS 315 Religion and Politics in America (Credits: 4)

(Also listed as REL 365) General examination of both the historical and the contemporary relation between religion and politics in the United States, with special reference to church/state separation.

PLS 321 City Politics (Credits: 4)

(Also listed as URS 321.) Governments and politics of metropolitan regions; government structure and functions; and interest and power relations.

PLS 322 State Government (Credits: 4)

Survey and analysis of the structures and functions of the American states with special attention to the problems of federal-state and state-local relations, legislative apportionment, and urban growth.

PLS 323 Government of Ohio (Credits: 4)

Organization and functions of the government of Ohio with special attention to development, social structure, legal status, electoral processes, and fiscal problems.

PLS 324 Political Aspects of Urban Development (Credits: 4)

Institutional and political context of planning; laws, governmental structures and procedures, and urban politics.

PLS 325 African American Politics (Credits: 4)

Explores what makes African American politics distinctive from American politics and discusses the prerequisites for effective political and economic leadership in the black community. A major theme of the course is the notion of black power.

PLS 331 Political Parties (Credits: 4)

General functions, organization, and operation of American political parties. Emphasis on role of parties in democratic systems. Examines nominations, elections, campaigns, and presidential politics.

PLS 335 The American Presidency (Credits: 4)

General political functions, roles, and structure of the presidential office; limits and opportunities of presidential power; relations with Congress, courts, bureaucracy, the public, and the political party; and presidential personality.

PLS 337 The Legislative Process (Credits: 4)

Policy role, political functions, internal structure, and operation of Congress. Secondary concern for state legislatures and non-American legislative bodies.

PLS 340 Law and Society (Credits: 4)

Theories of law; in addition to the nature and functions of the judicial process.

PLS 341 Fundamentals of Criminal Investigation (Credits: 4)

Survey of investigative techniques focusing on specific problems and crimes to illustrate proper methods and procedures of criminal investigations. Prerequisite: PLS 200 and PLS 212

PLS 342 Civil Liberties I: 1st Amendment (Credits: 4)

Cases and related materials on the Bill of Rights and the 14th Amendment with emphasis on the First Amendment freedoms: freedom of speech, of the press, and of religion.

PLS 343 Civil Liberties II: Due Process (Credits: 4)

Cases and related materials on the enforcement of civil rights and liberties through the due process and equal protection claims of the 14th Amendment.

PLS 344 Police Procedures and Operations (Credits: 4)

Procedures and operations of law enforcement at various levels from patrol to senior administration, emphasizing duties, responsibilities, and leadership.

Prerequisite: PLS 200 and PLS 212

PLS 345 Public Administration (Credits: 4)

(Also listed as URS 345.) Nature and scope of public administration, administrative law, and public interest in the administrative process.

PLS 346 Public Personnel Administration (Credits: 4)

Methods of employment, training, compensation, and employee relations in various levels of civil service. Examines organizations of public employees.

PLS 347 American Public Policy Analysis (Credits: 4)

The nature and classification of public policy. Emphasis on fragmentation, incrementalism, and bargaining as a means of policy development. Impact of citizens on public policy. Survey of public policy goals and problems of public policy evaluation.

PLS 351 Political Systems of Western Europe (Credits: 4)

Comparative study of the political systems of Great Britain, France, and West Germany.

PLS 352 Politics of Nationalism (Credits: 4)

Comparison of ethnic identity and politics in Western societies including the United States, Canada, Great Britain, and France. Topics include minorities and the welfare state, affirmative discrimination, and African American politics in the United States.

PLS 354 Governments of Eastern Europe (Credits: 4)

Introduction to the governments and politics of Eastern Europe, particularly since World War II. Includes current developments in Poland, Czechoslovakia, East Germany, Hungary, Rumania, Bulgaria, and Yugoslavia.

PLS 356 Politics and Society in France (Credits: 4)

Examines the historic interaction of French culture and politics. Topics include the growth of the French nation and state, French society, the nature of modern politics and institutions, and France's role in world affairs.

PLS 358 Latin American Politics (Credits: 4)

Selected issues in the study of Latin American politics with an emphasis on the nature of the state and the role of institutions such as the military and unions in politics. Examples from major South American states and Mexico where appropriate.

PLS 360 Politics of Developing Nations (Credits: 4)

Comparative analysis of various problems, particularly political, confronting developing nations in nation building and development.

PLS 368 Politics of Vietnam (Credits: 4)

An examination of the history, demography, politics, culture, and economy of Vietnam.

PLS 370 International Theory (Credits: 4)

Study of recent findings in international politics. Explanations of world political developments such as war, alliance formation, and arms races. Prerequisite: PLS 222

PLS 371 Current World Problems (Credits: 4)

Various views and perspectives on selected contemporary problems and trends in international politics.

PLS 372 International Organization (Credits: 4)

Analysis of developing structures and functions of the United Nations and other international organizations, and concepts relating to world government.

PLS 375 Human Rights in USA (Credits: 4)

Examines controversies over human rights in the United States and considers contending definitions of human rights and debates over policy by focusing on a range of issues including immigration, pornography, gay rights, race relations, and poverty.

PLS 376 Peace Studies (Credits: 4)

Study of war, peace, and current efforts in dealing with international conflict. Examines the roots of war in American society and alternative strategies for elimination of war as an instrument of policy.

PLS 381 National Security Politics (Credits: 4)

Study of U.S. national defense and security policy process and the major strategic issues facing the U.S. government.

PLS 382 US-Japan Foreign Relations (Credits: 4)

Examines the course of the relationship between the United States and Japan. Includes political, security, and economic issues.

PLS 399 Studies in Selected Topics (Credits: 1 to 4)

Problems, approaches, and topics in the field of political science. Topics vary.

PLS 402 Classic and Medieval Political Thought (Credits: 4)

(Also listed as PHL 431.) Critical examination of political ideas from 500 B.C. to A.D. 1500 with special attention to Plato, Aristotle, Cicero, St. Augustine, St. Thomas Aquinas, Luther, Calvin, and Machiavelli.

PLS 403 Political Thought: Hobbes-Mill (Credits: 4)

(Also listed as PHL 432.) Critical examination of political ideas from 1600 to 1900 with special attention to Hobbes, Locke, Rousseau, Montesquieu, Hume, Burke, Hegel, Bentham, Marx, and Mill.

PLS 404 20th Century Political Thought (Credits: 4)

Critical examination of 20th-century political theory. Emphasis on nature, methodology, evaluation, existing condition, and future of political thought.

PLS 406 Global Theories and Gender Politics (Credits: 4)

An examination of globalization theories and the gender politics of global restructuring.

PLS 407 Seminar in Political Theory (Credits: 4)

Readings, research, reports, and discussion on selected theorists, topics, and problems. Topics vary.

PLS 408 Radical Black Thought (Credits: 4)

Examines radical black thought and philosophy from a Pan-Africanist perspective, focusing primarily on the 20th century.

PLS 412 Topics in Empirical Political Analysis (Credits: 4)

Selected topics of methodological or analytical concern in contemporary political research.

PLS 420 Politics and the Novel (Credits: 4)

(Also listed as ENG 460) Study and critiques of political themes in works of selected 20th century authors, including social roles, activism, political awareness, power, government and conflict at the individual, institutional and international level. Prerequisite: ENG 102

PLS 427 Urban Policy Analysis (Credits: 4)

(Also listed as URS 427.) Study of selected urban problems and their relationship to the political environment. Use of simulation gaming to understand community development processes.

PLS 428 Contemporary African-American Problems (Credits: 4)

The critical pedagogy of this course allows for an in-depth exploration of many problematic issues that assail African Americans from outside and within the black community itself. Several possible explanations and solutions will be addressed.

PLS 430 American Government Seminar (Credits: 4)

Selected topics related to American political institutions and processes. Emphasis on readings, discussion, and research. Topics vary.

PLS 431 Cyber Crime (Credits: 4)

Investigation of political and legal issues in computer and Internet based crime, including child pornography, computer fraud, and identity theft, prevention of cyber crime and responsibilities of computer owners and Internet servers.

PLS 433 Public Opinion (Credits: 4)

Opinion formation in American politics; relationship of opinion to public policy; voting behavior in American elections; role of mass media and political interest groups in policy process; and development of political attitudes and values.

PLS 434 Political Leadership (Credits: 4)

Development of political attitudes and values among leaders, activists, and the public. Relationship between personality, political leadership, behavior, and policy.

PLS 435 Seminar—Political Corruption (Credits: 4)

Analysis of political corruption including campaign and elections, graft, the executive branch, congressional ethics, corruption in law enforcement, organized crime and abuse of authority.

PLS 436 Criminal Law (Credits: 4)

Examines the nature of the criminal law and reviews the law pertaining to criminal liability; inchoate crimes; the elements of crimes against persons, property, and habitation; and the defenses to criminal actions.

PLS 437 Criminal Procedure (Credits: 4)

Examines the constitutional protections that the individual has when confronting the criminal justice system. Examines case law pertaining to the surrounding the Fourth Amendment (search and seizure), Fifth Amendment (self-incrimination), and Sixth Amendment (right to counsel).

PLS 438 Environmental Law and Policy (Credits: 4)

Examines environmental law and policy and reviews the statutory framework pertaining to environmental impact statements, the regulation of air and water pollution, the disposal and cleanup of toxic wastes, and workplace safety.

PLS 439 Bioethics and Law (Credits: 4)

New biological technologies are emerging that increase our control over human behavior. Course examines legal implications of new biological technologies, particularly mind and behavior control, genetic engineering, birth and death control, and organ transplantation.

PLS 440 Constitutional Law (Credits: 4)

Cases in which provisions of the constitution have been judicially interpreted. Also examines federal systems, separation of powers, and limits on government.

PLS 441 Natural Resources Law (Credits: 4)

This course examines federal management of natural resources on public lands, specifically, water, minerals, timber, grazing, and wildlife. Constitutional authority, statutes, regulations, federalism, and judicial review of administrative decisions are analyzed.

PLS 442 Criminal Justice System (Credits: 4)

Survey of the American criminal justice system concentrating on political aspects. Topics include police, judges, attorneys, supreme court decisions, crime, and public opinion.

PLS 443 Administrative Law Procedures (Credits: 4)

Study of the law controlling the process by which public agencies make and administer policy. Topics include policy formulation and budgeting, legislative delegation, administrative agencies, rule making, and adjudication.

PLS 444 Topics in Criminal Justice (Credits: 4)

Problems, approaches, and topics in the field of criminal justice. Topics vary.
Prerequisite: PLS 200 or PLS 212

PLS 445 Advanced Criminal Investigation (Credits: 4)

Criminal investigative techniques including forensics, evidence, interviews, and interrogation as applied to specific types of crimes.
Prerequisite: PLS 341

PLS 446 Public Budgeting (Credits: 4)

(Also listed as URS 446.) Examination of the major phases of the governmental budget cycle; types of budget; budgetary reform; economic and public policy impact of government budgeting; decision-making process; and legislative/executive relations in budget formation and implementation.

PLS 447 Seminar in Public Administration (Credits: 4)

Selected national, state, and local problems with emphasis on legal scope of administrative power and on research methods used by staff agencies. Topics vary.

PLS 448 Gender Violence and American Politics (Credits: 4)

Examines gender violence in the United States. Considers the range of violence, its sources, and solutions. Topics include domestic violence, rape, eating disorders, reproductive rights, and pornography.

PLS 449 International Politics of Gender Violence (Credits: 4)

Cross-cultural examination of gender violence. Considers the range of violence, its sources, and solutions. Topics include domestic abuse, rape, female genital surgeries, prostitution, and reproductive rights.

PLS 451 Contemporary African Politics (Credits: 4)

Political processes and governmental institutions of sub-Saharan Africa; special attention to dynamics of political development and social and economic change. Comparative analysis of selected African political systems.

PLS 452 International Human Rights (Credits: 4)

Examines the role of human rights in international relations and considers contending definitions of human rights and debates over policy by focusing on case studies including South Africa, China, Guatemala and Bosnia.

PLS 453 Soviet Successor States (Credits: 4)

Examines the political life in the former Soviet Union, with emphasis on the legacy of communism and the role of economics and politics in the transition to democracy.

PLS 454 Politics of the Middle East (Credits: 4)

Introduction to governments and politics of the Middle East with special attention to cultural and historical background and the Arab-Israeli conflict.

PLS 455 Israeli and Palestinian Politics (Credits: 4)

A seminar covering the development and current status of Israeli and Palestinian politics, with emphasis on the Palestinian-Israeli conflict, and the government and politics of Israel and the Palestinian authority.

PLS 456 Canadian Government and Politics (Credits: 4)

This course examines Canadian government and politics, including political values and culture, as well as institutions and processes. The Canada-US relationship, and similarities and differences between the two systems will be examined.

PLS 457 Scandinavian Government and Politics (Credits: 4)

An examination of the theory and practice of Scandinavian government and politics. Consideration of both the political values and culture of the region as well as its prime political institutions and processes.

PLS 458 Latin American Politics (Credits: 4)

Selected issues in the study of Latin American politics with an emphasis on the nature of the state and the role of institutions such as the military and unions in politics. Examples from major South American states and Mexico where appropriate.

PLS 459 Contemporary Brazil (Credits: 4)

Introduction to Brazilian politics, society and economy. Topics include Brazil's political and economic liberalization, its international relations, gender and race relations, and the environment.

PLS 460 Seminar in Comparative Political Systems (Credits: 4)

Readings, research, reports, and discussion of selected topics and problems. Topics vary.

PLS 461 Social Movements and Protests (Credits: 4)

Examines group behavior motivated by the desire to change political, economic, and social systems. Special attention will be given to movements outside of the United States, including cross-national and global movements.

PLS 462 Comparative Revolutions (Credits: 4)

Surveys theoretical literature on revolutions: what they are, how and why they occur. Explores different approaches to the topic and some of the current debates in the literature. Applies theory to actual historical cases.

PLS 465 Politics of Nationalism (Credits: 4)

Comparison of ethnic identity and politics in Western societies including the United States, Canada, Great Britain, and France. Topics include minorities and the welfare state, affirmative discrimination, and African American politics in the United States.

PLS 466 Politics of South Asia (Credits: 4)

This course examines the role played by South Asia in shaping the political, economic and security landscapes around the world. Focus will be on four countries in the region: India, Pakistan, Bangladesh and Nepal.

PLS 467 Political Systems of China (Credits: 4)

Analysis of political structures and processes of Communist China; focus on dynamic factors of socioeconomic and political development.

PLS 470 Seminar in International Relations (Credits: 4)

Readings, research, reports, and discussion of selected topics and problems.

PLS 471 International Law (Credits: 4)

Study of rules governing the conduct of international politics with emphasis on their relevance to current world problems.

PLS 472 International Terrorism (Credits: 4)

Surveys the phenomenon of terrorism: who employs it, how and why it occurs in international politics, and how targets respond to terrorism. The special problems terrorism creates for democracies and the politics of hostage-taking are examined. Prerequisite: PLS 222.

PLS 473 American Foreign Policy (Credits: 4)

Role of the United States in contemporary international politics and the relationship of the domestic political system to that role. Discussion of current problems. Prerequisite: PLS 222

PLS 474 Politics of Women Terrorists (Credits: 4)

Examines the political behavior of women in crime and terrorism, including the roles played by women in criminal activities and terrorist groups. Prerequisite: PLS 222.

PLS 475 Women, Gender and World Politics (Credits: 4)

An examination of the position of women and the power of gender in world politics through feminist international relations theory and case studies of women in international politics.

PLS 482 Legislative Internship (Credits: 4)

Experiential internship in the office of a state legislator, including office work, constituent assistance, and research. Sophomore standing and permission of instructor required.

PLS 484 Pre-Law Internship (Credits: 4)

Students volunteer 15 hours per week in Greene County Prosecutor's office. Duties include preparing trial notebooks, legal research, courtroom observation, outreach, and other assistance to the prosecutor's staff.

330 Course Descriptions

PLS 485 Chinese Foreign Policy (Credits: 4)

Examines foreign policy perspectives of modern Chinese leaders, including historical, political, economical and ideological priorities. Special attention will be given to China-U.S. relations, as well as China's role in international and regional organizations.

PLS 486 Model UN Seminar (Credits: 3)

Model U.N. is an experiential learning opportunity built around this seminar, with intensive training in research, public speaking, bargaining, and conflict resolution. Culminates at the national collegiate conference in New York, simulating the United Nations.

PLS 487 History and Politics of Intelligence Gathering (Credits: 4)

This course examines the history of intelligence gathering, analysis and application in policy-making in the United States. The tension inherent in a secret agency operating within a democratic state and the role of technology are addressed. Prerequisite: PLS 222 or PLS 200

PLS 490 Independent Reading (Credits: 1 to 4)

Supervised individual readings on selected topics. Arranged between students and faculty member directing the study.

PLS 491 Independent Research (Credits: 1 to 4)

Supervised individual research on selected topics. Arranged between students and faculty member directing the study.

PLS 492 Independent Field Research (Credits: 1 to 4)

Supervised individual projects. May involve intern programs in local government or other special programs.

PLS 493 Contemporary Problems (Credits: 1 to 4)

Advanced study in selected topics that frequently include new developments in the methodology or subject matter of the various sub fields of the discipline.

PLS 494 Special Topics (Credits: 1 to 4)

Study of particular political problems of contemporary significance.

Portuguese/POR

POR 101 First Year Portuguese (Credits: 4)

Study of the vocabulary and structure of the Portuguese language; practice in conversation, reading, and writing.

POR 102 First Year Portuguese (Credits: 4)

Study of the vocabulary and structure of the Portuguese language; practice in conversation, reading, and writing. Prerequisite: POR 101

POR 103 First Year Portuguese (Credits: 4)

Study of the vocabulary and structure of the Portuguese language; practice in conversation, reading, and writing. Prerequisite: POR 102

POR 111 Essentials of Portuguese (Credits: 4)

Introduction to Portuguese with an emphasis on speaking the language. May be taken for a letter grade or pass/unsatisfactory.

POR 112 Essentials of Portuguese (Credits: 4)

Introduction to Portuguese with an emphasis on speaking the language. May be taken for a letter grade or pass/unsatisfactory. Prerequisite: POR 111

POR 201 Second Year Portuguese (Credits: 4)

Grammar review, reading, and discussion of selected texts with practice in speaking and writing the language. Prerequisite: POR 103

POR 202 Second Year Portuguese (Credits: 4)

Grammar review, reading, and discussion of selected texts with practice in speaking and writing the language. Prerequisite: POR 201

Psychology/PSY

PSY 105 Psychology: The Science of Behavior (Credits: 4)

Course examines the science and principles of psychology. Topics include historical foundations and research methods, brain and behavior, learning, development, personality, memory, language, and the thinking process.

PSY 110 Psychology: Science and Practice (Credits: 4)

Course examines the science and principles of psychology. Topics include social behavior, abnormal behavior, psychotherapies, stress and coping, motivation, intelligence, emotion, states of consciousness, and sensory and perceptual process.

PSY 200 Psychological Study of Contemporary Issues (Credits: 2 to 4)

Selected psychological issues and their implications for contemporary society and intellectual thought. Topics vary. Prerequisite: PSY 105 and PSY 110

PSY 208 Environmental Psychology (Credits: 4)

Effects on behavior of environmental factors such as crowding, noise, pollution, temperature, lighting, and architecture. Applications of psychological knowledge and techniques in dealing with current environmental problems are also considered. Prerequisite: PSY 105 and PSY 110

PSY 210 Psychology of Men and Women (Credits: 4)

Examines the current state of research evidence about sex differences in all aspects of human behavior, as well as patterns of public attitudes about the natures and proper roles of men and women.

Prerequisite: PSY 105 and PSY 110

PSY 211 Human Sexuality (Credits: 4)

Survey of the diversity of human sexual behavior focusing on the theory, current research, and psycho-social perspective on issues such as biology, coercion, counseling, enhancement, gender, infection, relationships, or sexual orientation.

Prerequisite: PSY 110 and PSY 105

PSY 215 Psychological Principles in Commercial Films (Credits: 4)

This course is designed to teach principles of psychology and their application through commercial films. Films will be selected to illustrate psychological themes. Students write short answers about how the film illustrates the themes. The instructor will raise the questions before the film so students can watch for specific themes. After the film, students will discuss the questions in class, in a web chat room, and on an electronic bulletin board.

Prerequisite: PSY 105 and PSY 110

PSY 251 Stereotyping and Prejudice (Credits: 4)

This course provides instruction into current topics related to stereotyping and prejudice. Course material stems from prominent researchers in the field of prejudice, while lectures are organized around discussions, videos, demonstrations, and experimental findings.

Prerequisite: PSY 105 and PSY 110

PSY 291 Drugs and Behavior (Credits: 4)

Introduces the major classes of psychoactive drugs, their behavioral effects, and mechanisms of action. The societal impact of some popular drugs is examined in terms of their effects on the brain, body and behavior.

Prerequisite: PSY 105

PSY 292 Hormones and Behavior (Credits: 4)

An overview of hormone-behavior relationship in humans and animals. Topics include sexual differences, puberty, reproductive behavior, parental behavior, aggression, eating behavior, and cognition.

Prerequisite: PSY 105 and PSY 110

PSY 294 Mind, Body, Consciousness and Reality (Credits: 4)

An exploration of modern ideas about consciousness, how it is related to the mind and body, its usefulness, and its relationship to reality.

Prerequisite: PSY 105

PSY 301 Basic Research Methods in Psychology (Credits: 4)

Introduction to basics of research methods, descriptive data analysis, and writing research reports in APA format. Students use methods from representative areas in psychology to collect data and summarize them using APA style.

Prerequisite: PSY 105 and PSY 110 and STT 160

PSY 302 Experimental Methods in Psychology (Credits: 4)

Students will be introduced to experimental control, experimental designs, concepts in probability and inferential statistics. Students will conduct experiments in the laboratory sessions, learn to interpret data objectively, and write scientific reports. Writing Intensive.

Prerequisite: PSY 301

PSY 303 Alternatives to Experimental Methods in Psychology (Credits: 4)

Introduction to alternative research methods including correlation and mixed designs. Students use methods from representative areas in psychology to design a study, collect and analyze data, and present findings in APA style. Writing Intensive.

Prerequisite: PSY 301

PSY 304 Industrial and Organizational Psychology (Credits: 4)

Scientific psychological principles, procedures, and methods applied to human behavior in organizations.

Prerequisite: PSY 105 and PSY 110

PSY 306 Engineering Psychology (Credits: 4)

(Also listed as HFE 306.) Introduction to the study of human factors in the design and operation of machine systems.

Prerequisite: PSY 321

PSY 307 Tests and Measures (Credits: 4)

Introduction to the use, application, evaluation, and development of psychological tests and measures such as ability, aptitude, attitude, standardized, or normed measures.

Prerequisite: PSY 301

PSY 309 Psychology of Health Behavior (Credits: 4)

Survey of the contributions of the psychology of health care. The focus is both theoretical and practical, emphasizing the integration of physiological and psychological knowledge.

Prerequisite: PSY 150 and PSY 110

PSY 311 Abnormal Psychology (Credits: 4)

Overview of facts and theories pertaining to abnormal behavior. Topics include classification and diagnosis, and causes and treatment of abnormal behavior.

Prerequisite: PSY 105 and PSY 110

332 Course Descriptions

PSY 321 Cognition and Learning (Credits: 4)

Theories, methodologies, and applications in the areas of attention, perception, visual imagery, memory, expert performance, decision making, and problem solving will be examined. The emphasis is on how the brain performs cognitive functions.

Prerequisite: PSY 105 and PSY 110

PSY 323 Cognition and Learning Methods (Credits: 4)

Laboratory research in various areas of cognitive psychology. Two hours lecture, four hours lab.

Prerequisite: PSY 321 and PSY 302 and PSY 303

PSY 331 Psychology of Personality (Credits: 4)

Survey of contemporary perspectives in personality psychology. Research methods, assessment strategies, and applications are compared.

Prerequisite: PSY 105 and PSY 110

PSY 333 Personality Research Methods (Credits: 4)

Survey of research methods appropriate to personality assessment and analysis. Laboratory experience in the development, implementation, and analysis of a research project focused on an issue in personality psychology.

Prerequisite: PSY 302 and PSY 303 and PSY 331

PSY 341 Lifespan Development Psychology (Credits: 4)

Survey of theory, research, and methodological issues in the study of development across the lifespan.

Prerequisite: PSY 105 and PSY 110

PSY 343 Developmental Psychology Methods (Credits: 4)

Survey of research design appropriate to developmental analysis, innovations in developmental methodology, and laboratory experience in the selection, design, and analysis of developmental problems of specific interest to individual students. Two hours lecture, four hours lab.

Prerequisite: PSY 341 and PSY 302 and PSY 303

PSY 351 Social Psychology (Credits: 4)

Survey of current theories and experimental findings regarding the determinants of social behavior.

Prerequisite: PSY 105 and PSY 110

PSY 353 Social Psychology Methods (Credits: 4)

Laboratory course in methods and problems involved in social psychology research. Two hours lecture, four hours lab.

Prerequisite: PSY 351 and PSY 302 and PSY 303

PSY 361 Conditioning and Learning (Credits: 4)

Introduction to experimental findings and contemporary theories of conditioning, learning, and motivation.

Prerequisite: PSY 105 and PSY 110

PSY 363 Conditioning and Learning Methods (Credits: 4)

Problems and methods of research in conditioning, learning, and motivation. Two hours lecture, four hours lab.

Prerequisite: PSY 361 and PSY 302 and PSY 303

PSY 371 Perception (Credits: 4)

Study of the active processes by which organisms gather, interpret, and respond to environmental stimuli.

Prerequisite: PSY 105 and PSY 110

PSY 373 Perception Methods (Credits: 4)

Laboratory experience and research techniques in various areas of perception. Two hours lecture, four hours lab.

Prerequisite: PSY 302 and PSY 303 and PSY 371

PSY 391 Behavioral Neuroscience (Credits: 4)

An introduction to the physiological mechanisms of behavior including relationships between the brain, hormones, and behavior. Specific topics may include reproduction, emotion, sleep, learning and memory, schizophrenia, and stress.

Prerequisite: PSY 105 and PSY 110

PSY 392 Behavioral Neuroscience II (Credits: 4)

Advanced materials on the physiology of behavior. Sensory, motor, ingestive and cognitive systems and addictive processes are evaluated in terms of underlying neural and hormonal systems.

Prerequisite: PSY 391

PSY 393 Behavioral Neuroscience Methods (Credits: 4)

Overview of methods used in behavioral neuroscience. Includes neuroanatomical dissections, student presentations, animal testing, and manuscript preparation.

Prerequisite: PSY 302 and PSY 303 and PSY 391

PSY 401 Advanced Experimental Design: Packaged Computer Programs (Credits: 4)

Focus on the use of canned computer programs such as SPSS, SAS, and BIOMED in the design, analysis, and interpretation of behaviorally oriented research.

Prerequisite: PSY 302 and PSY 303 and PSY 402

PSY 402 Advanced Topics in Research Methods (Credits: 4)

Introduction to Advanced Methods in select areas of psychology. Topic will vary by title.

Prerequisite: PSY 301 and PSY 302 and PSY 303

PSY 411 Advanced Topics in Abnormal Psychology (Credits: 4)

Theories and research relating to causes, symptoms, and influences of abnormal behavior.

Prerequisite: PSY 311 and PSY 302 and PSY 303

PSY 419 Advanced Topics in Behavioral Neuroscience (Credits: 4)

Detailed examination of selected areas in physiological psychology.

Prerequisite: PSY 302 and PSY 303 and PSY 391

PSY 421 Advanced Topics in Cognition and Learning (Credits: 4)

Detailed examination of selected areas in cognition and learning.

Prerequisite: PSY 302 and PSY 303 and PSY 321

PSY 425 Human-Computer Interface (Credits: 4)

Relationship of human cognitive, perceptual, and language processes to the effective operation of computer systems. Review of research and theory. Prerequisite: PSY 321 and CS 142 and PSY 302 and PSY 303

PSY 431 Advanced Topics in Personality (Credits: 4)

Examination of selected topics in personality, including theory, research, and application.

Prerequisite: PSY 302 and PSY 303 and PSY 331

PSY 432 Practicum in Applied Psychology (Credits: 4)

Work under supervision in an applied psychological setting consistent with students' individual interests (e.g., mental health agency, industrial, or organizational setting). Graded pass/unsatisfactory.

Prerequisite: PSY 302 and PSY 303

PSY 433 Developmental Psychopathology (Credits: 4)

Survey of theoretical approaches to the description and explanation of childhood psychopathology, overview of current research in the area of childhood psychopathology, and description of methodological problems involved in clinical research with children.

Prerequisite: PSY 302 and PSY 303 and PSY 341

PSY 438 Work Stress and Well-Being (Credits: 4)

The concept of work and stress and its implications for well-being are discussed. Predictors in the organization of work and individual differences are identified, and interventions for managing work stress are explored.

Prerequisite: PSY 302 and PSY 303 and PSY 331 or PSY 304

PSY 439 Theory and Research in Clinical Psychology (Credits: 4)

Overview of contemporary clinical approaches, research techniques, and empirical data.

Prerequisite: PSY 311 and PSY 302 and PSY 303

PSY 441 Advanced Topics in Developmental Psychology (Credits: 4)

Review of current theory, research, and applied issues in selected aspects of development across the lifespan.

Prerequisite: PSY 302 and PSY 303 and PSY 341

PSY 443 Psychometrics (Credits: 4)

Measurement theory and its application to test development including concepts of reliability, validity, discrimination, and prediction.

Prerequisite: PSY 302 and PSY 303 and PSY 307

PSY 444 Advanced Topics in Industrial and Organizational Psychology (Credits: 4)

Theories and research findings in selected topics in industrial psychology.

Prerequisite: PSY 302 and PSY 303 and PSY 304

PSY 447 Psychology of Aging (Credits: 4)

Overview of the theories, methods, and research related to human aging. Focus on both current research and applications from psychology.

Prerequisite: PSY 302 and PSY 303 and PSY 341

PSY 451 Advanced Topics in Social Psychology (Credits: 4)

Detailed examination of selected areas of current research in social psychology.

Prerequisite: PSY 302 and PSY 303 and PSY 351

PSY 452 Cross-Cultural Psychology (Credits: 4)

Cross-Cultural Psychology explores national differences in perception, cognition, and self-concept as well as in personality dynamics and interpersonal interactions. This more universal view of human thought and behavior addresses the challenges of globalization.

Prerequisite: PSY 302 and PSY 303 and PSY 331 or PSY 341 or PSY 351

PSY 454 Applied Sport Psychology (Credits: 4)

The course examines the social aspects, psychological performance enhancement aspects, and health aspects of sports-related phenomena.

Prerequisite: PSY 302 and PSY 303

PSY 455 Psycholinguistics (Credits: 4)

An overview of language: its development during the first years of life, its biological basis, its normal and abnormal characteristics.

Prerequisite: PSY 302 and PSY 303

PSY 465 Information Processing (Credits: 4)

Study of information processing skills such as selective attention, pattern recognition, reading, problem solving, and human performance.

Prerequisite: PSY 302 and PSY 303 and PSY 321

PSY 471 Advanced Topics in Perception (Credits: 4)

Emphasis on modern controversial issues and theories.

Prerequisite: PSY 302 and PSY 303 and PSY 371

PSY 475 Signal Detection Theory in Psychology (Credits: 4)

Presents signal detection theory in the context of Thurstonian scaling and statistical decision theory. Studies the application of signal detection theory in various areas of psychology including psychophysics, memory, physiology, and psycholinguistics.

Prerequisite: PSY 302 and PSY 303 and STT 160

PSY 478 Animal Behavior (Credits: 4)

Physiology, phylogeny, and ontogeny of behavior. This is writing intensive.

Prerequisite: PSY 302 and PSY 303

PSY 481 History of Psychology (Credits: 4)

Major trends in the development of psychology from its beginnings to the modern period.
Prerequisite: PSY 302 and PSY 303

PSY 487 Capstone Seminar on Select Topic (Credits: 4)

Writing and oral communication intensive seminar integrating knowledge on select topics. Topic will vary by title.
Prerequisite: PSY 302 and PSY 303

PSY 488 Seminar in Special Topics (Credits: 1 to 4)

Topics vary.
Prerequisite: PSY 302 and PSY 303

PSY 489 Honors Seminar (Credits: 2)

Primarily derived from current honors thesis research. Literature surveys, experimental designs, and special analytical problems presented and discussed by students and faculty. Topics vary.

PSY 490 Independent Readings in Selected Topics in Psychology (Credits: 1 to 4)

Specific topics selected by students and instructor. Graded pass/unsatisfactory.

PSY 498 Independent Research (Credits: 1 to 4)

Original problems for investigation. Graded pass/unsatisfactory.

PSY 499 Honors Research Project (Credits: 1 to 4)

Original problems for investigation leading to a psychology department honors thesis.

Religion/REL

REL 204 Great Books: Bible and Western Culture (Credits: 4)

Study of selected Biblical writings viewed in their original cultural contexts and chosen to reflect the varieties of Biblical literature, the Bible's relationship to various societies, and its role in the development of Western culture.

REL 205 What is Religion? (Credits: 4)

Explores the question of the meaning of religion by looking at various ways in which people experience and express it. Diverse examples of religion and religious life are considered.

REL 206 Eastern Religions (Credits: 4)

General introduction to the major religious traditions of South Asia and East Asia: Hinduism, Buddhism, Confucianism, Taoism, and Shintoism.

REL 207 Western Religions (Credits: 4)

General introduction to the major religious traditions of Judaism, Christianity, Islam, and other selected religious traditions.

REL 208 Contemporary Issues in Religion (Credits: 3)

Study of selected problems, ideas, and religious developments that have become important in contemporary society.

REL 220 Hebrew Scripture (Old Test) (Credits: 3)

Introduction to the literature, history, and religion of ancient Israel.

REL 221 Between the Testaments (Credits: 3)

Introduction to the literature and religion in Jewish sects from the Exile (ca. 500 B.C.E.) to the Mishnah of Judah the Prince (200 C.E.), including the Dead Sea Scrolls.

REL 222 Literature and Religion of the New Testament (Credits: 3)

Introduction to the literature, history, and religion of early Christianity.

REL 231 Religion and the American Experience (Credits: 3)

Survey of different religions in the United States with attention to the growth of a distinctive form of religion shaped by the American experience.

REL 235 Afro-American Religious Experience (Credits: 3)

Survey of the black American religious experience from the colonial era to the present. Examines what black American religion is and the role it plays in the sociopolitical life of Afro-Americans.

REL 245 World Religions (Credits: 3)

Comparative study of the role of religion in cultures and societies on the international scene.

REL 246 African Religion (Credits: 3)

Focuses on the religious concepts and practices of pre-modern African tradition.

REL 270 Approaches to Religious Ethics (Credits: 3)

Examination of various religious ethical systems from diverse cultural situations.

REL 280 Philosophy of Religion: Faith and Reason (Credits: 3)

(Also listed as PHL 280.) Selected cross-disciplinary issues arising from philosophy and religion; Judeo-Christian concept of God, grounds for belief and disbelief, revelation and faith, religious language, verification, immortality and resurrection, and karma and reincarnation. Issues are discussed on the basis of selected texts on faith and reason.

REL 281 Philosophy of Religion: Contemporary Western Survey (Credits: 3)

(Also listed as PHL 281.) Cross-disciplinary perspective on philosophical and religious schools of thought in the early 20th century. Absolute and personal idealism, spirit, value, positivism and naturalism, history and culture, modernism and pragmatism, religious consciousness, and phenomenology.

REL 290 Current Problems (Credits: 3)

Investigation and discussion of a single current problem in the field of religion.

REL 300 Religion in America (Credits: 4)

Concentrates on specific segments of American religious life. Focuses on one or more distinctive religious groups or movements in the context of American history and culture.

REL 310 Early and Medieval Western Religious Thought (Credits: 4)

Survey of important themes in religious thought of the major Western traditions. Selected readings from primary sources and secondary interpretations.

REL 311 Reformation and Modern Western Religious Thought (Credits: 4)

Survey of important themes in the religious thought of the major Western traditions. Selected readings from primary sources and secondary interpretations.

REL 315 Christianity (Credits: 4)

Examination of the structures of religious experience that have shaped the development of Christianity in history. Institutional and ritual forms are investigated as systems of meaning against the backdrop of the general history of religions.

REL 316 Judaism: Faith and People (Credits: 4)

Examination of Judaism as a religious faith and people, with special reference to formative historical, social, ethnic, and cultural factors.

REL 318 Contemporary Jewish Thought (Credits: 4)

Examination of the major themes and issues in the works of contemporary Jewish thinkers (e.g., Borowitz, Herberg, Fackenheim, Kaplan, Rothschild, Heschel, Rubenstein, and Weisel).

REL 321 Religions in Biblical Period (Credits: 4)

Examination of selected religious movements and/or problems in the Biblical period, and their interconnectedness and mutual influences.

REL 322 Topics in Biblical Literature (Credits: 4)

Examination of selected aspects of Biblical literature from both literary and historical perspectives to explore the possible structures, functions, and meanings of this literature for its original community.

REL 330 Topics in American Religion (Credits: 4)

Examination of selected topics in American religion to investigate its basic religious structures and to explore the relationship of religious phenomena to their cultural context.

REL 331 New Religious Movements in America (Credits: 4)

Considers a variety of new religious movements in America, including Shakers, Mormons, Seventh-Day Adventists, and Jehovah's Witnesses.

REL 332 Women and Religion in America (Credits: 4)

General examination of the role women have played in American religious history, with special reference to the diversity of women's religious experiences.

REL 340 Topics in Asian Religion (Credits: 4)

Studies in the religious dimension of Asian cultures with attention to historical, social, and aesthetic perspectives.

REL 341 Islam (Credits: 4)

Study of the origin and development of Islam including contemporary issues and problems.

REL 344 Religion in Japanese Life (Credits: 3)

Examination of the role of religion in Japanese culture and society with attention to both historical development and current issues.

REL 357 Understanding Death (Credits: 4)

Basic issues in death and dying using resources from human sciences and humanities in religious perspective.

REL 361 Religion and Society (Credits: 4)

(Also listed as SOC 361.) General treatment of religion as a social institution, examining the influence of religious ideas and organizations on other social institutions and the influence of society on religion.

REL 362 Anthropology of Religion (Credits: 4)

(Also listed as ATH 346.) Anthropological approach to the meaning and function of religion in social life and the nature of the thought or belief systems that gave rise to different forms of religious life; emphasis on primitive and peasant societies.

REL 363 Religion and Psychology (Credits: 4)

Introduction to selected themes, issues, and problems in the interaction of religion and psychology. Differing points of view are considered.

REL 365 Religion and Politics in America (Credits: 4)

(Also listed as PLS 315.) General examination of both the historical and the contemporary relation between religion and politics in the United States, with special reference to church/state separation

REL 370 Studies in Ethics: (Credits: 4)

Special topics for intensified study of the ethical dimensions of a particular religious tradition or for concentrated study in theoretical or practical ethical problems. Topics vary.

REL 371 Business Ethics (Credits: 4)

(Also listed as PHL 371.) Case studies and discussion of ethical issues involved in business transactions and management.

REL 378 Ethics and Medicine (Credits: 4)

(Also listed as PHL 378.) Examination of ethical issues confronting society in areas of medicine and health care, from perspective of philosophical and theological ethics. Examples include ethics of abortion, euthanasia, experimental medicine, and behavior control.

REL 382 Philosophy of Religion: Process (Credits: 4)

(Also listed as PHL 382.) Realism and the revolt against idealism. Cross-disciplinary analysis of major contemporary philosophers and the implications of their thoughts for religion. Focus on Alfred North Whitehead.

REL 383 Philosophy of Religion: Secular (Credits: 4)

(Also listed as PHL 383.) Cross-disciplinary analysis of modes of human awareness through which religious meaning is expressed (sensation, morality, beauty, reason, and human relations). Examination of presuppositions of contemporary secular religion in existentialism.

REL 390 Studies in Selected Subjects (Credits: 4)

Problems, approaches, and topics in the field of religion. Topics vary.

REL 394 Existentialism (Credits: 4)

(Also listed as PHL 394.) Representative writers of the existentialist movement.

REL 431 Religion in American Life (Credits: 4)

Development of religious thought and institutional life in the United States viewed in relationship to American social change.

REL 435 Black American Religious Thought (Credits: 4)

Analysis of black American religious thought through critical study of the writings of selected figures who have helped shape black religion from 1780 to the present.

REL 443 Asian Religious Philosophy (Credits: 4)

(Also listed as PHL 443.) Perennial themes in Asian cultures (such as individual, society, and cosmos; appearance and reality; time and history; karma, freedom, and responsibility) as they have been treated in the philosophical traditions of these cultures.

REL 456 Religious Themes in Literature (Credits: 4)

(Also listed as ENG 460.) Provides intensive study of literary works in terms of significant and recurring religious themes and images as they can be traced in various cultures and literary traditions.

REL 479 Ethics in Industrial Society (Credits: 3)

Ethical responsibilities of business in light of political, moral, social, and religious considerations. Emphasis on analysis and evaluation of the changing framework of responsibilities facing both business organizations and their leaders.

REL 487 Evolution, Religion and Ethics (Credits: 4)

(Also listed as BIO 417.) Introduction to the biological, philosophical, theological, and ethical aspects of evolution.

REL 493 Seminar in Religion (Credits: 4)

Topics vary.

REL 494 Undergraduate Research in Religion (Credits: 1 to 4)

Intensive consideration of problems and issues in a given area of religious study; topics determined in consultation between students and department. Graded pass/unsatisfactory at discretion of department.

REL 497 Senior Project (Credits: 4)

Guided research culminating in a major paper on a topic chosen by the student and the instructor. Students develop a comprehensive bibliography, prepare a detailed outline, and write and revise the final project.

REL 498 Workshop (Credits: 3)

Intensive study of selected problems (e.g., the teaching of religion in the secondary school, medical ethics) to meet particular needs of participating students. Topics vary.

Rehabilitation/RHB

RHB 101 American Sign Language I (Credits: 4)

Introduction to manual communication for professionals preparing to work in rehabilitation or anyone interested in learning sign language.

RHB 102 American Sign Language II (Credits: 4)

Continuation of the introduction to manual communication for professionals preparing to work in rehabilitation or for anyone interested in acquiring expertise in the area of sign language. Emphasis is on conversational skills. Aspects of deafness are covered through speakers and readings.

Prerequisite: RHB 101

RHB 103 American Sign Language III (Credits: 4)

Emphasis on skill improvement in American Sign Language. Aspects of deafness are covered through an off-campus field experience.

Prerequisite: RHB 101 and RHB 102

RHB 201 Introduction to Rehabilitation (Credits: 4)

A general introduction to the philosophy, history and development of rehabilitation. The course familiarizes students with areas to be considered when providing services to persons with physical/mental disabilities. Students also obtain an understanding of the rehabilitation code of ethics and social cultural influences.

RHB 202 Rehabilitation Resources (Credits: 4)

Prepares students to locate and evaluate the local, state, and federal resources available to meet the needs of persons with disabilities. Students will visit community agencies and volunteer in a community agency of their choice for a minimum of 25 hours during the quarter.

RHB 210 Introduction to Drugs and Alcohol (Credits: 4)

This course explores concepts, social policy, and approached related to alcohol and drug use including the addiction process, costs of abuse to the individual, family and society, and successful approaches for dealing with abuse.

RHB 228 American Sign Language IV (Credits: 4)

This intermediate course develops grammatical and vocabulary competency in sign formation, vocabulary, morphology, syntax, and discourse. Prerequisite: RHB 101 and RHB 102 and RHB 103

RHB 229 American Sign Language V (Credits: 4)

Higher level grammatical features of American Sign Language are covered to enhance receptive and productive mastery of its grammar and vocabulary. Practical application of conversational and interactive scenarios are also covered. Prerequisite: RHB 101 and RHB 102 and RHB 103 and RHB 228

RHB 230 American Sign Language VI (Credits: 4)

Interactive scenarios mastering grammar and vocabulary are covered via telling life events, describing events in time, asking for clarification, correcting, conforming, elaborating on information, agreement/disagreement resolving conflicts, and giving direction. Prerequisite: RHB 101 and RHB 102 and RHB 103 and RHB 228 and RHB 229

RHB 301 Medical Aspects of Rehabilitation I (Credits: 4)

Introduction to medical terminology and system disorders that usually have continued and long-standing residual effects and that commonly require rehabilitation intervention. Considers how disabling conditions impact vocational and social activities of daily living. Attention given to the pharmacological aspects of treating disabilities. Prerequisite: BIO 105 and BIO 106 and BIO 107 and RHB 201

RHB 302 Medical Aspects of Rehabilitation II (Credits: 3)

Examination of the treatment and rehabilitation of those physical disabilities that impose chronic limitations on activity. Consideration of the social and vocational adjustments that must be made by the individual. Prerequisite: RHB 301

RHB 303 Strategies for Employing Persons with Disabilities (Credits: 4)

Overview of job development and job placement techniques. Various methods to access the job market through job seeking skills, resume preparation, occupational information, and job analysis are discussed. Attention is given to attitudinal and architectural barriers that people with disabilities may encounter in their job search process.

Prerequisite: RHB 201 and RHB 301

RHB 304 Rehabilitation Casework (Credits: 4)

Assists students in acquiring skills in interviewing, case recording, writing rehabilitation plans with appropriate justifications, and case management. Prerequisite: RHB 201 and RHB 202 and RHB 301

RHB 305 Substance Abuse: Societal and Human Issues (Credits: 4)

Provides an overview of the social, cultural, and psychophysiological effects of substance abuse. Emphasis is on alcoholism and other popular mind-altering drugs.

Prerequisite: RHB 201 and RHB 301

RHB 370 Independent Study of Minor Problems in Rehabilitation (Credits: 1 to 3)

Independent study in areas of interest to students that are not readily available in any existing course. Topics vary. May be taken for letter grade or pass/unsatisfactory.

RHB 401 Introduction to Mental Retardation/ Developmental Disabilities (Credits: 4)

Introduction to the etiology, signs, symptoms, and rehabilitation of people with mental retardation/ psychiatric disabilities.

Prerequisite: RHB 301

RHB 403 Rehabilitation Practicum (Credits: 4 to 12)

Rehabilitation community field placement will assist the integration of skills learned throughout the program. Requires 400 clock hours of field work supervised by faculty and the agency, plus processing time.

Prerequisite: RHB 201 and RHB 202 and RHB 301 and RHB 303 and RHB 304 and RHB 401 and RHB 402 and RHB 407 and CNL 461 and CNL 467

RHB 404 Independent Living/Rehabilitation Technology (Credits: 4)

Discusses the history and current philosophy/ application of the independent living movement and rehabilitation technology in rehabilitation services. Process will be addressed in this course. Prerequisite: RHB 201 and RHB 301 and RHB 303 and RHB 401 and RHB 402

RHB 407 Principles of Rehabilitation Counseling (Credits: 4)

Focuses on the development of basic skills and attitudes associated with rehabilitation counseling. Interview style and format are examined along with listening and responding techniques associated with holistic approaches.

Prerequisite: RHB 201 and RHB 202 and RHB 301 and RHB 304 and CNL 461

RHB 408 Community Aspects of Deafness (Credits: 4)

This course is designed to introduce students to the social, cultural, and linguistic history of the deaf community in the United States. Off campus field experience is required.

Prerequisite: RHB 201 and RHB 202 and RHB 301 and RHB 405 and RHB 406

RHB 410 Counseling Aspects of Deafness (Credits: 4)

To develop a broader understanding of the psychological, medical, social, and vocational concerns of hearing impaired individuals. Focus will be upon acquiring basic counseling skills, medical aspects of hearing, and attitudinal barriers.

Prerequisite: RHB 301 and RHB 405

RHB 411 Physical Disability and Human Behavior (Credits: 4)

This course is designed to familiarize students with the interaction of physical disabilities and human behavior. Appropriate group approaches will be reviewed.

Prerequisite: RHB 301 and RHB 407 and CNL 461

RHB 432 Death, Dying and Grieving (Credits: 3)

A course in death, dying, and grieving for health educators who deal with grief and loss in situations such as death, dying, survivorship, children and loss, second marriages, suicide, and other events of trauma.

RHB 470 Special Topics (Credits: 1 to 2)

Special workshop courses to meet the needs of in-service rehabilitation professionals as well as providing courses on a one-time basis to meet special interests. May be taken for letter grade or pass/unsatisfactory.

Regional Studies/RST

RST 261 Regional Studies: Japan (Credits: 4)

Examines the development of Japanese civilization, covering topics such as the cultural and physical geography, the economic and political institutions, traditions and their effects on behavior, appreciation of nature as well as the visual and performing arts.

RST 262 Regional Studies: China (Credits: 4)

Introduction to the historical, cultural, economic, and political reality of the world's most populous country, highlighting the cultural contributions of China's rich history, not only in the creation of modern Chinese culture but its impact on other cultures.

RST 271 Regional Studies: Africa (Credits: 4)

Introduction to African environments; diversity of cultural heritages; changes due to modernization; colonialism, slavery, and independence; a brief survey of the relations of Africa to other non-Western regions; and the contribution of Africa to world civilization.

RST 281 Regional Studies: Latin America (Credits: 4)

Survey of non-Western societies including Indians, mestizos, blacks, and the peasantry, from pre-Columbian and African origins to the present, in terms of ideology, organization, social structure, culture, and economic activities.

RST 291 Regional Studies: Middle East (Credits: 4)

Introduction to the history, peoples, cultures, and geography of the Middle East from Mauritania to Pakistan from the seventh century to the present.

Russian/RUS

RUS 101 First Year Russian (Credits: 4)

Study of vocabulary and structure of the Russian language; practice in conversation, reading, and writing.

RUS 102 First Year Russian (Credits: 4)

Study of vocabulary and structure of the Russian language; practice in conversation, reading, and writing.

Prerequisite: RUS 101

RUS 103 First Year Russian (Credits: 4)

Study of vocabulary and structure of the Russian language; practice in conversation, reading, and writing.

Prerequisite: RUS 102

RUS 201 Second Year Russian (Credits: 4)

Grammar review, reading, and discussion of selected texts with practice in speaking and writing.

Prerequisite: RUS 103

RUS 202 Second Year Russian (Credits: 4)

Grammar review, reading, and discussion of selected texts with practice in speaking and writing.

Prerequisite: RUS 201

RUS 203 Second Year Russian (Credits: 4)

Grammar review, reading, and discussion of selected texts with practice in speaking and writing.

Prerequisite: RUS 202

Sign Language/SLI

SLI 310 Linguistics in ASL I (Credits: 4)

Study of the field of linguistics, particularly areas of phonology and morphology. Compares and contrasts ASL with English and other signed and spoken languages. Languages are analyzed to discover their patterns and structures.

SLI 320 Interpreting I (Credits: 4)

Enhancement of the ability to produce an equivalent message, working simultaneously between the source and target languages of ASL and English, focusing on text analysis and self-evaluation.

SLI 330 Transliterating I (Credits: 4)

Enhancement of the ability to produce an equivalent message, working simultaneously between the source and target languages of signed and spoken English, focusing on text analysis and self-evaluation.

SLI 340 Legal and Ethical Aspects of Interpreting (Credits: 4)

Course focuses on Code of Ethics, standards of practice, legal rights, federal legislation impacting the Deaf and governmental agencies, public services, and private services entitled to the Deaf.

SLI 360 Educational Interpreting (Credits: 4)

Types of educational settings for the Deaf or hard-of-hearing students K–12 and post secondary are presented. Communication, social and academic aspects are considered. IEP process is examined. Prerequisite: SLI 340

SLI 370 Interpreting Through Technology (Credits: 4)

Exposes students to the technological advances used as means for communication within the Deaf community. Students will explore the historical and current trends in technology as it applies to the field of interpreting.

SLI 380 Deaf-Blind: Their Language Culture Needs (Credits: 4)

Overview of necessary skills and role of the interpreter when working with individuals who are Deaf-Blind. Focus on etiology of deaf-blindness and its impact on communication. Introduction to basic sighted guide techniques.

SLI 381 Interpreting in Mental Health Settings (Credits: 4)

An introduction to mental health interpreting will prepare Interpreters to work with Deaf clients, providing appropriate and culturally affirming services, promote teamwork and understanding of mental health service providers and improve individual interpreting skills.

SLI 382 Professional Feedback Techniques for Sign Language Interpreters (Credits: 4)

Students will explore the process of self-development to maintain good relationships with their ASL interpreting colleagues. Hands-on practice includes learning the cognitive and emotional strategies when providing and receiving feedback in any interpreting situation.

Prerequisite: SLI 320 and SLI 330 and SLI 340

SLI 390 Trends in Deaf Culture (Credits: 4)

This course examines trends pertaining to Deaf and hard-of-hearing populations. Issues may include deaf education, language and literacy, sports, organizations and cochlear implants.

SLI 410 Linguistics in ASL II (Credits: 4)

Overview of the use of space, nonmanuals, syntax, discourse and sociolinguistics. Linguistic analysis of American Sign Language and spoken languages. Prerequisite: SLI 310 and SLI 320 and SLI 330

SLI 420 Interpreting II (Credits: 4)

Enhancement of ability to produce an equivalent message, working simultaneously between the source and target languages of ASL and English, focusing on team interpreting working lengthy segments of discourse, and settings with multiple consumers.

Prerequisite: SLI 310 and SLI 320 and SLI 410

SLI 430 Transliterating II (Credits: 4)

Enhancement of ability to produce an equivalent message, working simultaneously between the source and target languages of signed and spoken English, focusing on team interpreting, working lengthy segments of discourse, and settings with multiple consumers.

Prerequisite: SLI 310 and SLI 320 and SLI 330 and SLI 410 and SLI 420

SLI 440 Interpreting Specialties and Settings (Credits: 4)

Specialty settings on medical, mental, health, legal, Deaf-Blind, and oral interpreting will be covered. Discussions include ethical decision making, specialized vocabulary and legal ramifications. Students will demonstrate specialized vocabulary and sign competencies.

SLI 480 Voicing Registers (Credits: 4)

Students advance their skills in producing equivalent spoken English messages from signed source messages in a variety of registers. Continuation of English vocabulary development, ASL vocabulary, interpreting analysis skills, and strategies for team interpreting.

Prerequisite: SLI 320 and SLI 330

SLI 490 Senior Enrichment Project (Credits: 4)

Student will identify a community/professional need, develop and implement a project plan to benefit the community and/or profession.

Student conducts a critical self-assessment and demonstrates appreciation for lifelong learning.

Prerequisite: SLI 310 and SLI 320 and SLI 330 and SLI 340 and SLI 360 and SLI 360 and SLI 370 and SLI 380 and SLI 390

Science and Math/SM

SM 101 Scientific Thought and Method (Credits: 4)

Course addresses physical and natural sciences through a number of interdisciplinary thematic units emphasizing development of practical and critical thinking skills needed to perform scientific inquiry; will use similar techniques to strengthen math skills.

Prerequisite: MTH 126 and MTH 127

340 Course Descriptions

SM 144 Foundations in Physical Science (Credits: 4.5)

This course provides Early-Childhood Education majors with a firm foundation in science concepts and processes, skills in problem solving and critical analysis, and an understanding of constructivist, cooperative classroom environments.

Prerequisite: MTH 126 or MTH 127 or WSU Math Level 4 0 or WSU Math Level 4T 0 or WSU Math Level 5 0 or WSU Math Level 6 0 or WSU Math Level 7 0 or WSU Math Level 8 0

SM 145 Foundations in Scientific Literacy and Problem Solving (Credits: 3)

Fundamental concepts in science treated in an interdisciplinary way and integrated with mathematics. Emphasis on development on science process skills and problem-solving abilities.

Introductory experience to a constructivist and cooperative learning environment

Prerequisite: MTH 126 or MTH 127

SM 198 Introduction to Science and Mathematics (Credits: 2)

Introduces students to curriculum, activities, services, and associations within the College of Science and Mathematics. Emphasis is placed on developing study skills, critical thinking processes, and career preparation in science and math.

Graded pass/unsatisfactory.

SM 199 Topics in Science and Mathematics (Credits: 2 to 6)

Course offers challenging opportunities to participate in Mathematics, Biological Sciences, Chemistry, Geological Sciences, Physics and Psychology to academically talented students. Students work in small study groups which allows personal interaction with university research professors.

SM 205 Great Ideas in Science (Credits: 4)

Serves as a foundation for other science courses; introducing unifying concepts and principles in the natural sciences; 4 hrs. lecture.

SM 445 Projects in Science (Credits: 3)

An exercise in the application of data collection and analysis to an assigned small group project, reflecting aspects of the four basic sciences.

1 hour meeting and outside project.

SM 446 Projects in Science II (Credits: 3)

Using a variety of resources, including the course website, students will individually design, implement an extended scientific investigation into one of the four basic science areas.

Prerequisite SM 445 or instructor permission

Sociology/SOC

SOC 200 Social Life (Credits: 4)

Introduction to the processes through which individuals become members of groups, organizations, institutions, and societies, and how human social interactions lead to changes in social life and structures.

SOC 201 Modern Society (Credits: 4)

Problems facing modern society and possible solutions. Exploration of such questions as: What is the nature of modern society? How are modern political, economic, and educational systems organized?

SOC 204 Sociology Career Seminar (Credits: 2)

Designed to help students think about their futures, become familiar with career options, relate theoretical work to practical concerns, and plan their course work with an awareness of postgraduate needs.

SOC 205 The Sociological Imagination (Credits: 4)

Students will examine a variety of approaches and perspectives that systematically analyze complex individual and institutional behaviors as they vary culturally, subculturally, and cross-culturally.

SOC 210 Simulated Society (Credits: 2)

SIMSOC is a learning game designed to supplement the materials covered in introductory sociology courses. The game involves students as members of a simulated society. May be taken for letter grade or pass/unsatisfactory.

Prerequisite or co-requisite: SOC 200

SOC 220 Simulated Society II (Credits: 2)

Builds on experience of Simulated Society and analyzes societal processes; small group interaction stratification, leadership roles, political and economic philosophies; and minority relations. Students simulate a society and analyze experience. May be taken for letter grade or pass/unsatisfactory.

Prerequisite: SOC 210

SOC 221 Exploring Social Issues (Credits: 4)

Focuses on specific social problems. Topics vary.

SOC 231 Violence (Credits: 4)

Defines violence, explores patterns at individual and group levels, and examines explanations for change in quantity and intensity. Areas covered include criminal violence, domestic violence, rape, homicide, and genocide.

SOC 271 Social Welfare and Social Services (Credits: 4)

Study of social welfare and social services in society; introduction to generalist social work practice; continued career testing. Agency-based field project required.

Prerequisite: SW 270

SOC 300 Sociological Analysis (Credits: 4)

Course focuses upon the development of conceptual models used to analyze and interpret data in the social sciences.

Prerequisite: MTH 126 or MTH 127

SOC 301 History Sociological Thought (Credits: 4)

Historical study of the emergence and development of sociological thought from Adam Ferguson and Montesquieu through the 19th century; emphasis on the basic writings of Comte, Spencer, Marx, and others.

SOC 303 Contemporary Sociological Theory (Credits: 4)

Analyzes contemporary sociological theory (structural functionalism, symbolic interactionism, critical theory, and phenomenological theory) with a focus on the interpretation of society and on major figures of the 20th century

SOC 306 Introduction to Research Methods (Credits: 4)

Philosophical and applied issues of sociological investigation. Various means of collecting sociological data are analyzed.

SOC 310 Sociology of Gender (Credits: 4)

Introduces the theoretical and conceptual underpinnings of women's studies through exploring the changing historical, cultural, and social expressions of gender. Also examines social roles, institutions, policies, and movements which affect women. Philosophical and applied issues of sociological investigation. Various means of collecting sociological data are analyzed.

SOC 313 Intensive Alcohol Education Program (Credits: 1)

Students are observer/participants in the intensive alcohol education program which presents individuals with factual material about the effect of substance abuse, both physically and socially, so that they can make knowledgeable decisions about their usage. Graded pass/unsatisfactory.

SOC 315 Drug and Alcohol Intervention Workshop (Credits: 3)

Participant observation of the intervention and treatment of drug and alcohol problems including therapy and counseling groups, client/therapist contact, and professionals practicing intervention and confrontation techniques. May be taken for letter grade or pass/unsatisfactory.

Prerequisite: CNL 461 or CNL 466 or PSY 311 or PSY 331 or RHB 407 or RHB 301 or SW 270 or SW 481 or SW 482 or SW 483 or SOC 320 or SOC 461

SOC 320 Sociology of Deviant Behavior (Credits: 4)

Extensive exploration of the various sociological approaches to the study of deviance and social disorganization with emphasis on contemporary sociological theory and research.

Prerequisite: SOC 200 or SOC 201

SOC 330 Criminology (Credits: 4)

Survey of crime, some causal theories, and attempts at crime prevention in the United States.

Prerequisite: SOC 200 or SOC 201

SOC 332 Juvenile Delinquency (Credits: 4)

Problems of definition and treatment of delinquency. Preparation for further study and work with delinquents.

Prerequisite: SOC 200 or SOC 201

SOC 340 Social Organization (Credits: 4)

Theories and analysis of social organization in its historical and present context. Emphasis on the interrelationship between individuals, the family, and other institutions.

Prerequisite: SOC 200 or SOC 201

SOC 341 Social Inequality (Credits: 4)

Structures, theories, and consequences of social inequality with special emphasis on the United States.

Prerequisite: SOC 200 or SOC 201

SOC 342 Demography of Human Population (Credits: 4)

Introduction to factors influencing the structure and growth of human populations and the social consequences of population change. Patterns of fertility, mortality, and migration in today's societies are emphasized, and methods and materials used to study populations are presented.

Prerequisite: SOC 200 or SOC 201

SOC 345 Social Change (Credits: 4)

Explanations of social change in modern societies. Emphasis on identification of sources of change, effects of change throughout society, major trends, and issues for the future.

Prerequisite: SOC 200 or SOC 201

SOC 350 Sociology of Work (Credits: 4)

Investigation, analysis, and discussion of contemporary theories focusing on the relationship of the individual to work.

Prerequisite: SOC 200 or SOC 201

SOC 360 Sociology of the Family (Credits: 4)

Sociological analysis of family development over its life cycle. Involved is the relationship of the family to society and the individual. Topics include courtship, marriage, parenthood, adulthood, and aging.

Prerequisite: SOC 200 or SOC 201

SOC 361 Religion and Society (Credits: 4)

(Also listed as REL 361.) General treatment of religion as a social institution examining the influence of religious ideas and organizations on other social institutions, and the influence of society on religion.

SOC 363 Sociology of Education (Credits: 4)

School as a social institution. Internal and external influences, structure of the school social system, and sociological issues affecting the school such as social class factors and equality of educational opportunity.

342 Course Descriptions

Prerequisite: SOC 200 or SOC 201

SOC 380 Individual and Society (Credits: 4)

Interaction between society and the individual, forms and content of social relationships, and socialization as a social process. Emphasis in the basic writings of G. H. Mead and others.

Prerequisite: SOC 200 or SOC 201

SOC 390 Directed Readings in Sociology (Credits: 2 to 4)

Readings in areas of specialized interest. May be taken for letter grade or pass/unsatisfactory.

SOC 399 Studies in Selected Subjects (Credits: 1 to 4)

Problems, approaches, and topics in the field of sociology. Topics vary

Prerequisite: SOC 200 or SOC 201

SOC 401 Selected Topics: Theory-Methods (Credits: 4)

Variable content. Specific topics will be announced in the schedule when course is offered.

Prerequisite: SOC 200 or SOC 201

SOC 405 Seminar in Sociological Theory (Credits: 4)

An in-depth analysis of selected topics in sociological theory for advanced students, especially those contemplating graduate study. The topic selected varies from year to year.

SOC 406 Applications Research Methods (Credits: 4)

Advanced course in social research techniques that provides students the opportunity to design and carry out a full-scale research project within a seminar-like class setting. Students are encouraged to select research problems related to their major interest areas.

Prerequisite: SOC 306

SOC 420 Sociology of Sexual Behavior (Credits: 4)

Course examines alternative sexual lifestyles and behaviors. Employing the concepts of cultural relativity and ethnocentrism, students learn how sexual relationships are perceived and responded to in contemporary American society.

Prerequisite: SOC 200

SOC 422 Sociology of the Courts, Law and Justice (Credits: 4)

Students will critically examine the process, structure, and effects of the U.S. Court system. Special attention to issues of race, class, and other social factors that affect justice in society.

Prerequisite: SOC 320 or SOC 340

SOC 432 Penology (Credits: 4)

Historical development and critical assessment of penal institutions. Field visits to selected institutions.

Prerequisite: SOC 330 or SOC 332

SOC 433 Internship in Corrections and Family (Credits: 4)

Supervised field experience in corrections and family agencies (probation, parole, jail, juvenile, adult, and aging). Requires readings, a log, progress reports, and a paper synthesizing readings and field experience.

SOC 439 Selected Topics in Problems/Deviance (Credits: 4)

Topics vary.

Prerequisite: SOC 200 or SOC 201

SOC 440 Bureaucracy and Bureaucrats (Credits: 4)

Examination of the nature of modern bureaucratic organizations, their place in society, and consequences of bureaucratic forms for their members and society.

Prerequisite: SOC 200 or SOC 201

SOC 441 Industrial Sociology (Credits: 4)

Cross-cultural analysis of industrialization; organization of relationships within industrial social groups.

Prerequisite: SOC 200 or SOC 201

SOC 442 Race and Ethnicity (Credits: 4)

Study of intergroup, racial, and ethnic group relations including the processes and consequences of conflict, prejudice, and discrimination.

Prerequisite: SOC 200 or SOC 201

SOC 443 South Africa and Apartheid (Credits: 4)

An introduction to the social history of South Africa and the system of apartheid. Considers several scenarios regarding the future of South Africa and invites reflection upon past and future U.S. involvement in that country.

Prerequisite: SOC 200

SOC 444 Urban Sociology (Credits: 4)

Deals with the role of cities in past and present societies, the social and cultural implications of urban living, and special problems associated with city life.

Prerequisite: SOC 200 or SOC 201

SOC 446 Neighborhoods and Communities (Credits: 4)

What part do the community and the neighborhood play in the social life of modern societies? What makes a good neighborhood, a good community?

These and other questions are addressed.

Prerequisite: SOC 200 or SOC 201

SOC 457 Policing in Society (Credits: 4)

This course will discuss the history and theories of policing while reviewing the role and function of the police.

Prerequisite: SOC 300 or SOC 306

SOC 459 Explaining Crime: From Beccaria to Thornberry (Credits: 4)

Objective is to provide students with a sound understanding of theories of crime and how they operate within society as part of our understanding of the criminal justice system.

Prerequisite: SOC 300 or SOC 306

SOC 460 The Social Politics of African American Women (Credits: 4)

This class examines black feminism/womanist identity from a historical and contemporary perspective and highlights changes within the African American family. Seminar format will be utilized for students to discuss class readings.

Prerequisite: SOC 310 and SOC 442

SOC 461 Medical Sociology (Credits: 4)

Social dimension of health and illness. Consideration of the patterns of disease, along with the organization, provision, and delivery of medical services.
Prerequisite: SOC 200 or SOC 201

SOC 462 Social Gerontology (Credits: 4)

(Also listed as SW 462.) Study of social aspects of aging, the needs of the aging population, and society's response to these needs.

SOC 463 Social Gerontology II (Credits: 4)

Continuation of social gerontology. Explores in-depth concepts and issues related to aging.

SOC 479 Selected Topics in Social Institutions (Credits: 4)

Variable content. Specific topics will be announced in the schedule when course is offered.
Prerequisite: SOC 200 or SOC 201

SOC 481 Sociology of Small Groups (Credits: 4)

Study of face-to-face interaction with emphasis on both intergroup and intragroup structure and processes.
Prerequisite: SOC 200 or SOC 201

SOC 489 Selected Topics in Social Interactions (Credits: 4)

Titles vary.

SOC 490 Independent Research in Sociology (Credits: 2 to 4)

Field project in an area of interest. May be taken for letter grade or pass/unsatisfactory.

Spanish/SPN

SPN 101 First Year Spanish (Credits: 4)

Study of the vocabulary and structure of the Spanish language; practice in conversation, reading, and writing.

SPN 102 First Year Spanish (Credits: 4)

Study of the vocabulary and structure of the Spanish language; practice in conversation, reading, and writing.
Prerequisite: SPN 101

SPN 103 First Year Spanish (Credits: 4)

Study of the vocabulary and structure of the Spanish language; practice in conversation, reading, and writing.
Prerequisite: SPN 102

SPN 111 Essentials of Spanish (Credits: 4)

Introduction to Spanish with an emphasis on speaking the language.

SPN 150 Spanish Grammar Review (Credits: 4)

A thorough review of Spanish grammar with an emphasis on oral practice.

SPN 201 Second Year Spanish (Credits: 4)

Grammar review, reading, and discussion of selected texts with practice in speaking and writing the language.
Prerequisite: SPN 103

SPN 202 Second Year Spanish (Credits: 4)

Grammar review, reading, and discussion of selected texts with practice in speaking and writing the language.
Prerequisite: SPN 201

SPN 203 Second Year Spanish (Credits: 4)

Grammar review, reading, and discussion of selected texts with practice in speaking and writing the language.
Prerequisite: SPN 202

SPN 311 Spanish Conversation (Credits: 4)

Practice in oral use of Spanish emphasizing the culture of the Hispanic world.
Prerequisite: SPN 203

SPN 312 Spanish Conversation (Credits: 4)

Practice in oral use of Spanish emphasizing the culture of the Hispanic world.
Prerequisite: SPN 311

SPN 321 Spanish Composition (Credits: 4)

Oral and written composition in Spanish; translations from English into Spanish.
Prerequisite: SPN 203

SPN 322 Spanish Composition (Credits: 4)

Oral and written composition in Spanish; translations from English into Spanish.
Prerequisite: SPN 321

SPN 323 Spanish Composition (Credits: 4)

Oral and written composition in Spanish; translations from English into Spanish. Further grammar study.
Prerequisite: SPN 322

SPN 325 Business Spanish (Credits: 4)

An introduction to the language of business Spanish with insight into Spain and Latin America within the global economy.
Prerequisite: SPN 203

SPN 326 Business Spanish (Credits: 4)

Study of the business culture behind Spanish. Development of the communication skills and intercultural understanding. Use of Spanish in international business.
Prerequisite: SPN 325

SPN 331 Survey of Spanish Literature (Credits: 4)

Historical survey of Spanish literature. From the beginning to romanticism.
Prerequisite: SPN 312 and SPN 322

SPN 332 Survey of Spanish Literature (Credits: 4)

Historical survey of Spanish literature. From romanticism to the present.
Prerequisite: SPN 312 and SPN 322

344 Course Descriptions

SPN 333 Survey of Spanish-American Literature (Credits: 4)

Reading of prose, poetry, and plays by Spanish-American writers. From pre-Columbian times to romanticism.

Prerequisite: SPN 312 and SPN 322

SPN 334 Survey of Spanish-American Literature (Credits: 4)

Reading of prose, poetry, and plays by Spanish-American writers. From romanticism to the present.

Prerequisite: SPN 312 and SPN 322

SPN 361 Spanish Phonetics (Credits: 2)

Study of the vowel and consonant sound system through phonetic method; intonation.

Prerequisite: SPN 312 and SPN 322

SPN 381 Applied Elementary Spanish Instruction (Credits: 1)

Spanish majors assist elementary course instructors in conducting classes. For Spanish majors only.

SPN 382 Applied Elementary Spanish Instruction (Credits: 1)

Spanish majors assist elementary course instructors in conducting classes. For Spanish majors only.

SPN 383 Applied Elementary Spanish Instruction (Credits: 1)

Spanish majors assist elementary course instructors in conducting classes. For Spanish majors only.

SPN 399 Studies in Selected Subjects (Credits: 1 to 4)

Problems, approaches, and topics in the field of Spanish. Topics vary.

SPN 401 The Spanish Picaresque Novel (Credits: 4)

Intensive reading of such works as *Lazarillo de Tormes*, *Vida del Buscon*, and *Guzman de Alfarache*.

Prerequisite: SPN 302

SPN 402 The Spanish Novel of the Nineteenth Century (Credits: 4)

19th century prose work by Galdos and others.

Prerequisite: SPN 312 and SPN 322

SPN 403 Advanced Studies: Language and Civilization (Credits: 4)

Topics vary. Conducted in Spanish.

Prerequisite: SPN 312 and SPN 322

SPN 411 Golden Age Drama (Credits: 4)

Intensive readings of dramas by playwrights of the 16th and 17th centuries.

Prerequisite: SPN 302

SPN 412 Modern Drama (Credits: 4)

Intensive readings of dramas by playwrights of the 19th and 20th centuries.

Prerequisite: SPN 322 and SPN 332

SPN 421 Cervantes Part I (Credits: 4)

Intensive study of the works of Cervantes including *Don Quixote*, *Novelas Ejemplares*, *Entremeses*, and longer dramatic works. Lectures, discussions, and oral reports on Cervantes and his time.

Prerequisite: SPN 312 and SPN 322

SPN 422 Cervantes Part II (Credits: 4)

Intensive study of the works of Cervantes including *Don Quixote*, *Novelas Ejemplares*, *Entremeses*, and longer dramatic works. Lectures, discussions, and oral reports on Cervantes and his time.

Prerequisite: SPN 312 and SPN 322

SPN 431 Seminar in Spanish Literature (Credits: 4)

Intensive study of selected topics in peninsular literature. Background lectures, oral reports, and discussions. Topics vary.

Prerequisite: SPN 312 and SPN 322

SPN 432 Seminar in Spanish American Literature (Credits: 4)

Intensive study of selected topics in Spanish-American literature. Background lectures, oral reports, and discussions. Topics vary.

Prerequisite: SPN 332

SPN 441 Contemporary Spanish Literature (Credits: 4)

Readings in the novel, poetry, and drama of major Spanish writers in the post-Civil War period.

Prerequisite: SPN 312 and SPN 322

SPN 442 Contemporary Latin-American Literature (Credits: 4)

Readings in the novels, poetry, and drama of various Latin-American writers from the late 1930s to the present.

Prerequisite: SPN 332

SPN 450 Undergraduate Research in Spanish (Credits: 1 to 4)

Topics vary.

SPN 462 The Generation of 1898 (Credits: 4)

Novel, poetry, and theatre of Unamuno, Baroja, and others.

Prerequisite: SPN 332

SPN 481 Independent Reading for the Advanced Student (Credits: 4)

Topics vary.

SPN 483 Doing Business in Latin America (Credits: 4)

This course studies, in both English and Spanish, fundamental concepts of doing business, managing, and marketing in Latin America. Examines cultural, institutional, behavioral and management systems and their operations in Latin America.

Prerequisite: (SPN 325 and IB 201) or EC 320 or EC 435

Statistics/STT

STT 160 Statistical Concepts (Credits: 5)

An introduction to the fundamental ideas of statistics. Topics include descriptive statistics, probability, confidence intervals, and testing hypotheses, as well as the basic of Chi-square tests, regression and correlation, and analysis of variance.

Prerequisite: MTH 126 or MTH 127 or WSU Math Level 4 0 or WSU Math Level 4T 0 or WSU Math Level 5 0 or WSU Math Level 6 0 or WSU Math Level 7 0 or WSU Math Level 8 0

STT 264 Elementary Statistics I (Credits: 4)

Numerical and graphical methods for finding and summarizing important features of data. Principles of designing experiments for collecting data. Introduction to probability. Use of statistical computing package to apply methods and illustrate concepts.

Prerequisite: MTH 126 or MTH 127 or WSU Math Level 4 0 or WSU Math Level 5 0 or WSU Math Level 4T 0 or WSU Math Level 6 0 or WSU Math Level 7 0 or WSU Math Level 8 0

STT 265 Elementary Statistics II (Credits: 4)

Confidence intervals and hypothesis testing introduction. Applications to means, proportions, two-sample comparisons, contingency tables, linear regression, and analysis of variance. Use of statistical computing package to apply methods to data sets.

Prerequisite: STT 264

STT 342 Probability and Statistics for Middle School Teachers (Credits: 4)

Probability and statistical methods applied to real problems. Scientific method of investigation. Data collection, organization, display, and analysis. Empirical and axiomatic probability, simulation, variation, sampling, expected values, and statistical inference. Probability and uncertainty. For early and middle childhood and mathematics education majors only.

Prerequisite: MTH 128 or MTH 129 or MTH 243 and WSU Math Level 5 0 or WSU Math Level 6 0 or WSU Math Level 7 0 or WSU Math Level 8 0

STT 360 Applied Statistics I (Credits: 4)

Introduction to probability, random variables and their expectations, some commonly used discrete and continuous distributions, concept of random sampling and sampling distributions. Use of computer software packages for simulating, summarizing, and displaying data.

Prerequisite: MTH 229 and MTH 230

STT 361 Applied Statistics II (Credits: 4)

Introduction to statistics, standard statistical methods for estimation of parameters and hypothesis testing, introduction to regression analysis and analysis of variance techniques, exposure to data analysis using packaged computer programs.

Prerequisite: STT 360

STT 363 Engineering Statistics (Credits: 3)

Introduction to probability, distributions, and statistical methods; using calculus to develop the necessary theory.

Prerequisite: MTH 232

STT 367 Introduction to SAS (Credits: 2)

Introduction to the use of the Statistical Analysis System, a statistical computing package widely used in industry, government, and academia.

Prerequisite: STT 265

STT 386 Independent Reading in Statistics and Probability (Credits: 1 to 5)

Topics vary.

STT 396 Topics in Statistics and Probability (Credits: 1 to 5)

Titles vary. May be taken for letter grade or pass/unsatisfactory.

STT 401 Nonparametric Methods (Credits: 4)

Distribution-free estimation and hypothesis testing procedures. Includes methods for use in one- and two-sample location and dispersion problems, nonparametric alternatives to ANOVA and regression, goodness-of-fit tests, measures of association, and tests for randomness.

Prerequisite: STT 466

STT 411 Applied Time Series (Credits: 4)

Stochastic models for discrete time series in the time-domain, moving average processes, autoregressive processes, model identification, parameter estimation, and forecasting. Statistical computing software packages are used.

Prerequisite: STT 361 or STT 561

STT 424 Statistical Quality Control and Improvement (Credits: 4)

Statistical process control for attributes and variables data: probability distributions, sampling plans, control charts, statistical control, process capability, process improvement, tolerance intervals, evolutionary operation, and applications.

Prerequisite: STT 361 or STT 363

STT 426 Survival Analysis (Credits: 4)

Censoring and truncation, survival and hazard functions, estimation and hypothesis tests, Cox proportional hazards model, diagnostics of the Cox model; state-of-the-art software for survival analysis models.

Prerequisite: STT 361

STT 428 Queuing Theory (Credits: 4)

Stochastic concept of a queuing process is developed. Theories and applications of single and many server queues are presented. Emphasis on applications in engineering and computer science.

Prerequisite: STT 360 or STT 363

STT 430 Biostatistics (Credits: 4)

The statistical methods suitable for analysis of data arising in biological and related studies. Estimation and hypothesis testing are reviewed. Methods include one and two sample tests, simple and multiple regression, and analysis of variance. Prerequisite: STT 265

STT 461 Theory of Statistics I (Credits: 4)

Probability, random variables, density and distribution functions, expectation, moment generating functions, special discrete and continuous distributions; joint, marginal and conditional distributions; independence, properties of expected values, functions of random variables. Prerequisite: STT 360 and MTH 232

STT 462 Theory of Statistics II (Credits: 4)

Limiting distributions, central limit theorem, statistics and sampling distribution point estimation, properties of estimators, sufficiency and completeness, interval estimation, hypothesis testing, most powerful and UMP tests, likelihood ratio tests. Prerequisite: STT 361 and STT 461

STT 464 Computational Statistics (Credits: 4)

Bootstrapping is a computing-intensive method of data analysis by computing distributions. The method, including permutation tests, can be adapted easily to many classical problems. Software used for the course includes SPLUS and Mathematica. Prerequisite: STT 360 with minimum grade of B and STT 361 with minimum grade of B

STT 466 Statistical Methods I (Credits: 4)

Classical statistical techniques for analysis and interpretation of research data including the use of statistical software packages. Includes descriptive statistics, one-and-two-sample inferences, regression and correlation analysis. Prerequisite: MTH 253 or MTH 255 and STT 265 or STT 361

STT 467 Statistical Methods II (Credits: 4)

Continuation of STT 466. Includes analysis of variance, multiple comparisons, analysis of covariance, contingency table analysis, goodness of fit tests. Prerequisite: STT 466

STT 469 Introduction to Experimental Design (Credits: 4)

Randomization, replication, blocking factorial design. Block designs; multi-factor experiments; fixed-, random- and mixed-effects models; repeated measures; nested factors; split-plot designs; confounding and fractions for 2^k factorial experiments. Statistical software used extensively. Prerequisite: STT 467

STT 486 Independent Reading in Statistics and Probability (Credits: 1 to 5)

Independent study in statistics and probability.

STT 492 Undergraduate Statistics Seminar (Credits: 3)

Detailed study of a single statistical topic or problem in practice of statistics chosen by student with approval of the instructor. The student will present the results of study in an expository paper. Seminars/Independent study. Limited to 10 students. Mathematics majors with statistics option only. Prerequisite: STT 462 and STT 467

STT 496 Topics in Statistics and Probability (Credits: 1 to 5)

Topics in statistics and probability.

Social Work/SW

SW 270 Social Work as a Profession (Credits: 4)

Introduction to the profession: historical development, value base, social systems perspective on social problems, and major fields of practice. Includes required knowledge, skills, and values; critical thinking; problem solving; self-awareness; and appreciation of racial, ethnic, and cultural pluralism.

SW 271 Social Welfare and Social Services (Credits: 4)

Study of social welfare and social services in society; introduction to generalist social work practice; continued career testing. Agency-based field project required. Prerequisite: SW 270

SW 272 Cultural Competence in a Diverse World (Credits: 4)

Introduction to the knowledge, skills and process required to develop cultural competency. Content covers the historical development of discrimination and the need for cultural competency within the U.S. and international communities.

SW 291 Descriptive Statistics (Credits: 4)

Discuss descriptive statistical methods for social science research. Includes theory and application of frequency distributions, graphic representations, measures of central tendency and variability. Statistical Package for Social Sciences. Introduces probability and measures of association. Prerequisite: MTH 102 or DEV 095

SW 320 Workshop in Current Problems (Credits: 1 to 6)

Intensive study of a particular problem area, utilizing professionally qualified personnel from academia and the practice community. Specific subtitles to be added with individual workshops.

SW 375 Human Behavior in Social Functioning (Credits: 4)

Analysis of human behavior in assessment of social functioning as it relates to social work intervention. Includes ego psychology, social-systems theory, role theory, and learning theory. Prerequisite: SW 271

SW 380 Basic Practice Theory (Credits: 4)

Foundation sequence of generalist social work practice theory. Problem assessment, data collecting, data analysis, intervention methods, and evaluation procedures. Introduction to task-centered approach.

Prerequisite: SW 271

SW 389 Seminar on Special Problems in Social Work Practice (Credits: 1 to 4)

Selected topics related to current issues in social work practice; readings, research, and discussion.

SW 394 Readings in Social Work (Credits: 2 to 4)

May be taken for letter grade or pass/unsatisfactory.

SW 399 Studies in Selected Subjects (Credits: 1 to 4)

Problems, approached, and topics in the field of social work. Topics vary. May be taken for letter grade or pass/unsatisfactory.

SW 462 Social Gerontology I (Credits: 4)

Study of social aspects of aging, the needs of the aging population, and society's response to these needs. (Also listed as SOC 462.)

SW 463 Social Gerontology II (Credits: 4)

Continuation of social gerontology.
Prerequisite: SW 462

SW 470 Social Welfare Policy (Credits: 4)

Development, status, and effectiveness of social welfare policies. Application of social work values and knowledge to current policies, programs, and services.

Prerequisite: SW 375 and SW 380 and SW 390

SW 473 Child Welfare (Credits: 4)

Framework for categorizing child welfare problems. Historical and current examination of legislation, policies, programs, and services to address child welfare needs including the role of the child welfare worker.

SW 480 Gerontology Practicum (Credits: 4)

Supervised learning under direction of faculty and agency staff. 10 weeks/20 hours per week, or 20 weeks/10 hours per week.

Prerequisite: SW 462 or SOC 462

SW 481 Generalist Practice with Individuals (Credits: 4)

In-depth study of generalist social work practice theory for the enhancement of social functioning of individuals.

Prerequisite: SW 375 and SW 380 and SW 490

SW 482 Generalist Practice with Groups (Credits: 4)

In-depth study of generalist social work practice theory for the enhancement of social functioning of small groups.

Prerequisite: SW 375 and SW 380 and SW 490

SW 483 Generalist Practice with Families (Credits: 4)

In-depth study of generalist social work practice theory for the enhancement of family social functioning.

Prerequisite: SW 375 and SW 380 and SW 490

SW 484 Generalist Practice with Organizations and Communities (Credits: 4)

In-depth study of generalist social work practice theory for the enhancement of social functioning in social welfare organizations and communities.

Prerequisite: SW 375 and SW 380 and SW 490

SW 487 Social Work Practicum I (Credits: 4 to 12)

Application of theory to practice in agency settings. Individual supervised learning experiences and on-site seminars under direction of instructor and agency staff.

Prerequisite: SW 375 and SW 380 and SW 490

SW 488 Social Work Practicum II (Credits: 4)

Application of theory to practice in agency settings. Individual supervised learning experiences and on-site seminars under direction of instructor and agency staff.

Prerequisite: SW 487

SW 489 Social Work Practicum III (Credits: 4 to 6)

Application of theory to practice in agency settings. Individual supervised learning experiences and on-site seminars under direction of instructor and agency staff.

Prerequisite: SW 488

SW 490 Research Methods in Social Work I (Credits: 4)

Sequential study of evaluative research design methodology. Development of criteria for the selection and intelligent use of research reports. Evaluation of selected research reports for relevance to social work practice.

Prerequisite: SW 271

SW 491 Research Methods in Social Work II (Credits: 4)

Continuation of SW 291 and SW 490 with the emphasis of applying inferential statistics during Social Work research.

Prerequisite: SW 291 and SW 490

SW 494 Independent Research in Social Work (Credits: 2 to 4)

May be taken for letter grade or pass/unsatisfactory.

Technical Accountancy/TAC

TAC 210 Financial Accounting I (Credits: 3)

Development of financial accounting theory and its application to complex problems in the valuation of balance sheet accounts, determination of the net income, and preparation of financial statements.

Prerequisite: ACC 203

TAC 211 Financial Accounting II (Credits: 3)

Development of financial accounting theory and its application to complex problems in the valuation of balance sheet accounts, determination of net income, and preparation of financial statements.

Prerequisite: TAC 210

TAC 220 Cost Accounting I (Credits: 3)

Practice of cost accounting and cost procedures in industry: job order, process, and standard cost methods.

Prerequisite: ACC 205

TAC 221 Cost Accounting II (Credits: 3)

Practice of cost accounting and cost procedures in industry: job order, process, and standard cost methods.

Prerequisite: TAC 220

TAC 224 Payroll Accounting (Credits: 3)

Familiarization of payroll accounting systems, understanding tax laws in relation to payroll, and practical application to records and related tax forms.

Prerequisite: ACC 202

TAC 225 Tax Accounting I (Credits: 3)

Income tax regulations related to business and individual income tax reporting.

Prerequisite: ACC 203

TAC 226 Tax Accounting II (Credits: 3)

Income tax regulations related to business and individual income tax reporting.

Prerequisite: TAC 203 or TAC 225

TAC 260 Computerized Accounting (Credits: 4)

Study of software programs for accounting applications. Reviews the process of set-up, initial entries, and analysis of data compiled.

Prerequisite: ACC 203 or CS 205

TAC 280 Auditing (Credits: 3)

Introduction to principles, procedures, and standards involved in the conduct of an audit by an accountant.

Prerequisite: ACC 203

TAC 295 Independent Study (Credits: 1 to 3)

Directed study on selected topics.

TAC 297 Studies in Selected Subjects (Credits: 1 to 5)

Problems, approaches, and topics in the field of accounting. Titles vary. May be taken for a letter grade or pass/unsatisfactory.

TAC 299 Internship (Credits: 4)

Practical business experience in accounting for qualified students under the joint planning and coordination of faculty, student, and business representative.

Technical Data Processing/TDP

TDP 130 Basic I (Credits: 4)

Programming elements of BASIC language; techniques for debugging and interpreting computer output; linkage to subroutines and overlays; file-structure involving sequential access; case studies with business applications. Three hours lecture, two hours lab.

Prerequisite: CS 205

TDP 210 Electronic Spreadsheets (Credits: 3)

Use of the electronic spreadsheet as an integrated program that combines spreadsheet processing, word processing, and data base management software with graphics capabilities. Emphasis on how to save, retrieve, extract data, create a spreadsheet, and use worksheet commands, database commands, and graphic commands. Two hours lecture, two hours lab.

TDP 211 Advanced Spreadsheet Application (Credits: 3)

Use of the electronic spreadsheet that incorporates use of macros, database functions, logical functions and operations, and /X Commands. Two hours lecture, two hours lab.

Prerequisite: TDP 210

TDP 221 Systems Analysis I (Credits: 3)

An introduction to the fundamental concepts of systems development and design. Topics included are: basic system concepts, planning, elements of systems, performing systems study, and alternatives in systems design. 2 hours lecture, 2 hours lab.

Prerequisite: CS 141 and TDP 130 or TEG 211

TDP 222 Systems Analysis II (Credits: 3)

The student must design and implement an information system from managerial perspective. This will include analysis of present information flow, systems specifications, equipment selection, and system effectiveness. 2 hours lecture, 2 hours lab.

Prerequisite: TDP 221

TDP 230 Introduction to Operating Systems (Credits: 4)

Introduction to the concepts of computer operating systems and resource allocation. Topics will include executive options, layered products, multiprocessing and multiprogramming options, utility functions, and memory management. Laboratory assignments will consist of generating and tailoring a usable operating system with layered products. Two hours lecture, four hours lab.

Prerequisite: CS 141 and TDP 130 or TEG 211

TDP 295 Independent Study (Credits: 1 to 3)

Directed study on selected topics. May be taken for letter grade or pass/unsatisfactory.

TDP 297 Studies Selected Topics (Credits: 1 to 4)

Problems, approaches, and topics in the field of data processing. Titles vary. May be taken for letter grade or pass/unsatisfactory.

Technical Administration/TAD

TAD 200 Business Law (Credits: 4)

The study of law as it relates to business organizations and transactions.

TDP 299 Internship (Credits: 4)

Practical data processing experience under the joint planning and coordination of faculty, student, and business representative. May be taken for letter grade or pass/unsatisfactory. Completion of 60 hours of course work required. Considers the nature and classification of law, courts, torts, contracts, corporations, and negotiable instruments.

Engineering Technology/TEG

TEG 131 Statistical Process Control (Credits: 3)

Emphasis on classic probability as it serves the practical tools of statistical process control and single, double, sequential, variable and continuous sampling plans. Includes basic concepts of statistics and probability, sampling, process quality, control charts, acceptance sampling, and an introduction to reliability.

TEG 141 Development of Engineering and Technology (Credits: 2)

Historical perspective of the development of engineering, science, and technology, including the interrelationship of technology and society.

TEG 145 CAD I (Credits: 4)

Basic concepts of engineering drawing applied to manual and computer-aided drafting. Orthographic projection to produce complete multi-view drawings. Computer basics for drawing set-up, construction and file management. Two hours lecture, four hours lab.

Prerequisite: DDT 144

TEG 150 Manufacturing I (Credits: 3)

An introduction to many of the basic tools, machines, and measuring instruments used in the manufacturing industry. Emphasizes safety in the operation of industrial metal-working equipment, understanding material cutting science, and logical process decisions. Lab work will emphasize turning operations and permanent metal joining techniques. Two hours lecture, two hours lab.

Prerequisite: TMT 113 or permission of instructor

TEG 151 Manufacturing II (Credits: 3)

A continuation of TEG 150. Course will involve further discussion of manufacturing processes as well as hands-on machining experience. Lab work will emphasize milling operations, welding operations and EDM machining. Two hours lecture, two hours lab.

Prerequisite: TEG 150 or permission from instructor

TEG 152 Automated Manufacturing I (Credits: 4)

An introduction to the operation and programming of computer numerically controlled equipment. The student will learn the process of writing and editing CNC programs and the basic principles of CAD-CAM software operation. Two hours lecture, four hours lab.

Prerequisite: TEG 150

TEG 153 Manufacturing II (Credits: 4)

A step-by-step process through the operation of computer-aided-manufacturing software to manipulate part programs and produce standard CNC code. Will use the basic principles of CAD for product design and CAM to set-up tool paths, offsets, and other required information to produce the CNC codes and manufacture the parts. Two hours lecture. Four hours lab.

Prerequisite: TEG 152, TMT 114 or permission of instructor

TEG 160 Fundamentals of AC/DC Electronics (Credits: 4)

Electricity, voltage, power and energy. Symbology per industry standards. Series, parallel and combination circuits and their applications. Introduction to AC quantities, including magnetic, capacitive and inductive quantities. Fundamental operation of motors and generators. Two hours lecture, four hours lab.

Prerequisite: TMT 114

TEG 161 Industrial Control Circuits (Credits: 4)

Semiconductor theory fundamentals and applications. Application of AC/DC fundamentals using motors and control log circuits. Ladder diagrams, sequential analysis and evaluation of symbology used in control circuits. Basics of programmable logic controllers are introduced. Two hours lecture, four hours lab.

Prerequisite: TEG 160

TEG 201 Statics (Credits: 4)

Forces, resultants, components, moments; equilibrium of particles and rigid bodies; analysis of structures; centroids and moments of inertia. Four hours lecture.

Prerequisite: TMT 115, PHY 111, 101L

TEG 202 Dynamics (Credits: 4)

Motion of particles and rigid bodies; displacement, velocity, acceleration, force, and mass; torque, mass moments of inertia, rotation; work-energy relation of particles and rigid bodies. Four hours lecture.

Prerequisite: TEG 201

TEG 203 Strength of Materials (Credits: 4)

Axial stress and strain, shear stress and strain, torsion of circular shafts, combined stresses; shear and bending moment diagrams; deflection of beams and columns; modes of failure. Four hours lecture.

Prerequisite: TEG 202

TEG 205 CAD/CAM Operations (Credits: 4)

Studies the relationship of CAD and CAM operations. Student will use 3D models as a database for automated code generation and manufacture of products on standard CNC machines. Two hours lab, four hours lab.

Prerequisite: TEG 147

TEG 206 Technical Illustration (Credits: 4)

This course is primarily concerned with development of reproducible pictorials-obliques, isometrics, axonometrics, perspectives, and autoshade drawings. Use of MICROCAD will help to make the transition from mechanical drawing to geometric modeling.

Two hours lecture, four hours lab.

Prerequisite: TMT 115 and TEG 205

TEG 209 Fluid Mechanics (Credits: 3)

Basic study of hydraulics and pneumatics.

Applications of hydraulic principles to industrial control systems and compressed air systems to common industrial control circuits.

Prerequisites: PHY 111, 101L; TMT 113

TEG 210 Electronics I (Credits: 4)

An introduction to the basic concepts of semiconductor devices and their applications.

Diode and bipolar transistors are discussed. Diode applications - half wave rectifier, bridge rectifier, and power supply are covered. Class A amplifier gain, input and output impedance, bias techniques, and transistor configurations are explained. Two hours lecture, four hours lab.

Prerequisite: TEG 161

TEG 211 Computer Programming Technology (Credits: 3)

Will begin with basic PC fundamentals and continue through the study of higher level languages using BASIC for solution of engineering problems. Typical PC applications are presented. Two hours lecture, four hours lab.

TEG 212 Materials Science (Credits: 4)

The fundamental chemistry and application of chemistry and physics to the commonly encountered engineering materials including ferrous and non-ferrous metals, ceramics, polymers, and composites. Three hours lecture, two hours lab.

Prerequisite: PHY 111 and PHY 101

TEG 218 Facility Design (Credits: 3)

Material flow, warehousing, quantitative techniques, estimating, planning, and design of industrial and service facilities with emphasis on material handling, production and office layout, management, personnel, aesthetics, and the environment. Three hours lecture.

TEG 219 Industrial Safety (Credits: 3)

To introduce the student to a comprehensive approach to the central factors involved in developing safe practices and conditions.

Imparts in the student the ability to set up safety organizations and conduct safety education and training. Gives the student the ability to recognize the effect of plant layout, mechanical guards, and the occupational health hazards on injury rates and accident costs. Imparts in the student the economic and engineering aspects of fire protection, personal protection equipment, industrial waste disposal, and the analysis of a safety program.

TEG 220 Electronics II (Credits: 4)

Continuation in the discussion of transistor amplifiers. AC load line, class B power amplifier, and transformer couplings are discussed. JFET, E-MOSFET, D-MOSFET, transistors, their biasing techniques, and applications are introduced. Two hours lecture, four hours lab. Prerequisite: TEG 210.

Prerequisite: TEG 210

TEG 221 Automation and Robotics (Credits: 4)

Application programming course on automated manufacturing. Robotic programming with pendant and BASIC. Cell interfacing; robot, CNC, and support devices operating in a BASIC programming environment. Two hours lecture, 4 hours lab.

Prerequisite: TEG 205 or TEG 153

TEG 225 Work Measurement (Credits: 3)

An overview of the concepts of work measurement and its use in the industrial environment. The techniques behind time and motion study, work sampling, predetermined time systems, and standard data will be studied. Emphasis will be on understanding the application and ramification of work measurement in manufacturing organizations. Will explore the Continuous Improvement concept, or Just-in-Time (JIT) and how it is impacted by work measurement. Will visit the related disciplines of production management, capacity analysis, and manufacturing flow and facilities. Three hours lecture.

Prerequisite: TMG 201.

TEG 226 Metallurgy (Credits: 3)

This is a first course dealing with the terminology and designations of materials used in manufacturing and emphasizes the relation between the nature of materials and their properties. The altering of properties for design purposes and methods of comparing and testing materials for selection are covered.

Prerequisite: TEG 212

TEG 230 Electronics III (Credits: 4)

Introduction of differential and operational amplifier and their various applications. Summing amplifier, integrator, comparator, active filter, and oscillators are discussed. 555 timer and solid state switching circuit such as Schmitt trigger and multivibrator are introduced. Two hours lecture, four hours lab.

Prerequisite: TEG 220

TEG 232 Industrial Electronics (Credits: 4)

Motors, transformers, components used in electrical control circuits such as contacts, relays, timers, etc. phase shift control, photo-electric control, time delay circuits, static switching, and servo-mechanisms. Two hours lecture, four hours lab.

Prerequisite: TEG 230.

TEG 233 Process Control (Credits: 3)

Industrial processes: types, examples, and common problems. Sensors used in industrial processes. Fundamentals of industrial control. Programmable controllers: programming, hardware, operation, applications, installation, maintenance, and troubleshooting. Two hours lecture, two hours lab.

Prerequisite: TEG 161 or permission of instructor.

TEG 235 Industrial Systems (Credits: 4)

A study of components that make up a typical industrial control system. Various sensor and control subsystems are evaluated both individually and in combination. Industrial applications of lasers and fiber optics are studied both with regard to sensor and data communication usage. Two hours lecture, four hours lab.

Prerequisite: TEG 232.

TEG 240 Digital Logic (Credits: 4)

Boolean algebra, combination logic, and more complex digital circuits such as flip-flops, registers, counters, decoders, encoders, multiplexers, adder, and timers. Two hours lecture, four hours lab.

Prerequisite: TMT 113 or permission of instructor.

TEG 241 Microprocessors I (Credits: 4)

This course extensively covers 8086 assembly and machine language programming. The internal functionality of current microcomputers are presented along with basic system architecture and multiplexed display circuitry. Three hours lecture, two hours lab.

Prerequisite: TEG 240 or permission of instructor.

TEG 242 Microprocessors II (Credits: 4)

A continuation of TEG 241 expanding the study to include typical microcomputer subsystems such as keyboards, floppy and hard disc systems, dot matrix and laser printers, and video interfaces. Diagnostic techniques are presented and practiced. Three hours lecture, two hours lab.

Prerequisite: TEG 241.

TEG 243 Microprocessors III (Credits: 4)

Continuation of TEG 242 will cover hardware, software, and repair of complete microcomputer applications. CAD, communications systems, control systems, and measurement applications are presented. Three hours lecture, two hours lab.

Prerequisite: TEG 242.

TEG 250 Electronic Communications (Credits: 3)

Methods of transmission of digital data are studied, particularly modems and LAN's. Exposure to setup, installation, and troubleshooting is given. Two hour lecture, two hours lab.

Prerequisite: TEG 242.

TEG 270 CAD II (Credits: 5)

Provides students with CAD techniques on computer operating systems and software customization with the use of macro and menus. This course covers adapting a CAD system to one's own needs. The principles of 3-D drawing will be covered. The student will learn to use the User Coordinate System and other AutoCAD options to create and view pictorial views of objects. Two hours lecture, six hours lab.

Prerequisite: TEG 170.

TEG 295 Independent Study (Credits: 1 to 4)

Directed studies on selected topics.

TEG 297 Studies in Selected Subjects (Credits: 1 to 5)

Problems, approaches, and topics in the field of engineering. Titles vary. May be taken for letter grade or pass/unsatisfactory.

Technical English/TEN

TEN 85 Basic Writing (Credits: 4)

Helps students develop and improve writing skills. Subject areas includes grammar, sentence structure, paragraph development, essay writing, and proof reading. Cannot be applied toward graduation. Graded pass/unsatisfactory.

Technical Finance/TFI

TFI 205 Business Finance (Credits: 3)

Introduction to basic concepts, principles, and analytical techniques of financial management. Emphasis on planning and managing assets, and financial structure decisions. Topics include asset management, capital budgeting, cost of capital, financial leverage, and the demands for funds in the business sector of the economy. Forms of business financing and fundamental concepts of capital budgeting and analyzed.

Prerequisite: ACC 204

TFI 236 Seminar in Select Real Estate Topics (Credits: 3)

Various topics to be covered depending upon demand and instructor's objectives.

Prerequisite: TFI 233 and TFI 234

Theatre Arts/TH

TH 100 Musical Theatre Voice (Credits: 1)

Half-hour musical theatre voice lessons per week for theatre majors only.

TH 102 Introduction to Technical Theatre (Credits: 3)

General survey of technical aspects of theatre including its personnel and organization.

TH 103 Vocal Production and IPA for the Actor (Credits: 2)

For acting majors only. Application of the International Phonetic Alphabet and understanding the physiological structure of the vocal mechanism.

TH 104 IPA for the Singing Actor (Credits: 1)

Basic training in the International Phonetic Alphabet for musical theatre acting majors.

TH 105 Vocal Production and IPA (Credits: 1)

Departmental majors only. Basics of singing and application of International Phonetic Alphabet.

TH 106 Basic Music Theory and Piano Skills for Actors I (Credits: 2)

Introduces basics of rhythm, melody, sight-singing, and musical theatre piano in a group class.

TH 107 Basic Music Theory and Piano Skills for Actors II (Credits: 2)

Second term of course covering basics of rhythm, melody, sight-singing, and musical theatre piano in a group class.

TH 108 Basic Music Theory and Piano Skills for Actors III (Credits: 2)

Third term of course covering basics of rhythm, melody, sight-singing, and musical theatre piano in a group class.

TH 110 Theatre Management Activities (Credits: 1 to 3)

Participation in university theatre productions; specific assignments determined at initial meeting.

TH 115 Singing for the Actor I (Credits: 1)

For acting majors only. All students must have auditioned for and received departmental approval before registering for this class.

TH 116 Singing for the Actors I (Credits: 1)

For acting majors only. All students must have auditioned for and received departmental approval before registering for this class.
Prerequisite: TH 115

TH 117 Singing for the Actor I (Credits: 1)

For acting majors only. All students must have auditioned for and received departmental approval before registering for this class.
Prerequisite: TH 116

TH 120 Make-Up for the Theatre (Credits: 2)

Theory and practice of stage makeup.

TH 124 Theatre Graphics I: Fundamentals (Credits: 2)

Drawing for the theatrical designer with emphasis on fundamentals.

TH 125 Theatre Graphics I: Media (Credits: 2)

Drawing for the theatrical designer with emphasis on media.

TH 126 Theatre Graphics I—Concepts (Credits: 2)

Drawing for the theatrical designer with emphasis on concepts.
Prerequisite: TH 125

TH 141 Acting Warmup (Credits: 1)

Physical and vocal training for freshmen acting majors. Graded pass/unsatisfactory.

TH 142 Acting Warmup (Credits: 1)

Physical and vocal training for freshmen acting majors. Graded pass/unsatisfactory.

TH 143 Acting Warmup (Credits: 1)

Physical and vocal training for freshmen acting majors, third term. Graded pass/unsatisfactory.

TH 144 Acting I (Credits: 3)

Training imagination, mind, body, and voice of the beginning actor.

TH 145 Acting I (Credits: 3)

Training imagination, mind, body, and voice of the beginning actor.

TH 146 Acting I (Credits: 3)

Training imagination, mind, body, and voice of the beginning actor.

TH 147 Acting Aesthetics (Credits: 2)

Generalized acting course that includes various aspects of movement, vocal technique, improvisation, and scene work. Designed for students who are emphasizing the technical areas of the arts. For technical design majors only.

TH 148 Acting Aesthetics (Credits: 2)

Generalized acting course that includes various aspects of movement, vocal technique, improvisation, and scene work. Designed for students who are emphasizing the technical areas of the arts. For technical design majors only.
Prerequisite: TH 147

TH 149 Acting Aesthetics (Credits: 2)

Generalized acting course that includes various aspects of movement, vocal technique, improvisation, and scene work. Designed for students who are emphasizing the technical areas of the arts. For technical design majors only.
Prerequisite: TH 148

TH 157 Singing—Musical Theatre (Credits: 2)

Private singing lessons for musical theatre acting majors.

TH 158 Singing—Musical Theatre (Credits: 2)

Private singing lessons for musical theatre majors.

TH 159 Singing for the Musical Theatre Actor (Credits: 2)

Private singing lessons for musical theatre majors.

TH 200 Rehearsal and Performance (Credits: 2)

Student actors are directed by faculty in mainstage or studio theatre productions. May be repeated up to eight credits. Departmental permission and audition required.

TH 202 Sound Design I (Credits: 3)

Introduction to the sound design and production processes, such as script analysis, artistic and aesthetic choices, equipment use/terminology, recording and assembly techniques.
Prerequisite: TH 102

TH 203 Contemporary Theatre (Credits: 3)

Critical study of contemporary theatre and its standards and production methods. Attendance at several current productions required. Theatre tickets must be purchased by the student. Prerequisite: TH 101

TH 210 Theatre Technology (Credits: 3)

Participation in the operation of a production shop. Introduces students to the fundamentals of theatre technology, emphasizing basic processes and materials. Participation in selected department productions required. For B.F.A. technology majors only.

TH 214 Theatre in Western Culture (Credits: 4)

Introduction to the many arts of the theatre including the roles of the actor, playwright, director, designer, critic, and audience. Selected scripts from representative historical periods are examined as an aid in understanding the theatrical event.

TH 215 Singing for the Actor II (Credits: 1)

For acting majors only. All students must have auditioned for and received departmental approval before registering for this class. Prerequisite: TH 117

TH 216 Singing for the Actor II (Credits: 1)

For acting majors only. All students must have auditioned for and received departmental approval before registering for this class. Prerequisite: TH 215

TH 217 Singing for the Actor II (Credits: 1)

For acting majors only. All students must have auditioned for and received departmental approval before registering for this class. Prerequisite: TH 216

TH 219 Stage Lighting I (Credits: 3)

The study of the aesthetics, processes and tools of theatrical lighting design. Emphasis on technical aspects of stage lighting, with an introduction to light design principles. Script analysis, research, color theory, equipment, design documentation. Prerequisite: TH 102

TH 220 Stagecraft (Credits: 3)

Introduction to theory and practice of theatre technology with study of the materials and techniques involved. Includes practice in construction, mounting, and running of productions.

TH 222 Theatre Production (Credits: 2)

Practical study of technical theatre technology with study of the materials and techniques involved. Includes practice in construction, mounting, and running of productions. May be repeated for maximum of nine credit hours applicable toward degree.

TH 224 Theatre Graphics II: Drafting (Credits: 3)

Introduction to and practice with the basic graphics tools, materials, and techniques used in drafting designs for the theatre.

TH 225 Theatre Graphics II: Color (Credits: 3)

Introduction to and practice with the basic color theories, materials, and techniques used in designing for the theatre.

TH 226 Theatre Graphics II—Model Making (Credits: 3)

Introduction to and practice with the basic tools, materials, and techniques of scale model building for the theatre.

TH 227 Stage Lighting Technology (Credits: 3)

Mechanics of stage lighting including behavior of light, lighting instruments, and control systems. Includes study of the functions and duties of the stage lighting technician. Prerequisite: TH 102

TH 228 Scenery Technology (Credits: 3)

In-depth study of scenery technology and its techniques. Involves the study of standard scenery construction, metalworking, and the application and details of stage rigging and its equipment. For B.F.A. technology majors only.

TH 229 Costume Technology (Credits: 3)

Introduction to the basics of theatre costume technology. Includes fundamentals of construction, aging, dyeing, and distressing of costumes. Prerequisite: TH 102

TH 238 Introduction to Movement A (Credits: 2)

Introduction to beginning movement techniques for performers.

TH 239 Introduction to Movement B (Credits: 2)

Introduction to beginning movement techniques for performers. Prerequisite: TH 238

TH 240 Movement for the Actor I (Credits: 2)

Study of physical alignment, improvisation, warm-up methods, and exploration of movement dynamics as they relate to acting. Basic tumbling and pantomime techniques are introduced. For sophomore acting and acting-musical theatre majors only.

TH 241 Movement for the Actor I (Credits: 2)

Study of physical alignment, improvisation, warm-up methods, and exploration of movement dynamics as they relate to acting. Basic tumbling and pantomime techniques are introduced. For sophomore acting and acting-musical theatre majors only.

TH 242 Movement for the Actor I (Credits: 2)

Study of physical alignment, improvisation, warm-up methods, and exploration of movement dynamics as they relate to acting. Basic tumbling and pantomime techniques are introduced. For sophomore acting and acting-musical theatre majors only.

TH 244 Acting II (Credits: 3)

Second year of acting emphasizes character study. Emphasis on audition at the end of spring quarter.

TH 245 Acting II (Credits: 3)

Second year of acting emphasizes character study. Emphasis on audition at the end of spring quarter.

TH 246 Acting II (Credits: 3)

Second year of acting emphasizes character study. Emphasis on audition at the end of spring quarter. Prerequisite: TH 245

TH 250 Script Analysis (Credits: 4)

This course offers students a variety of analytical methods for exploring a range of theatrical texts. Primary focus is on thematic, structural and formal aspects of analysis.

TH 254 Theatre Speech I (Credits: 2)

Speech training focusing on expansion and strengthening of the actor's voice. Emphasis on clear articulation and proper enunciation of the phonemes of American standard English.

TH 255 Theatre Speech I (Credits: 2)

Speech training focusing on expansion and strengthening of the actor's voice. Emphasis on clear articulation and proper enunciation of the phonemes of American standard English.

TH 256 Theatre Speech I (Credits: 2)

Speech training focusing on expansion and strengthening of the actor's voice. Emphasis on clear articulation and proper enunciation of the phonemes of American standard English. Prerequisite: TH 255

TH 257 Singing—Musical Theatre (Credits: 2)

Private singing lessons for musical theatre acting majors.

TH 258 Singing—Musical Theatre (Credits: 2)

Private singing lessons for musical theatre acting majors.

TH 259 Singing—Musical Theatre (Credits: 2)

Private singing lessons for musical theatre acting majors.

TH 301 Introduction to Theatrical Design (Credits: 3)

Exploration of the collaborative process between director and designers, which results in a specific visual approach to a production. Emphasis on designer progression from script analysis and research to realization of the design. Prerequisite: TH 214

TH 302 Sound Design II (Credits: 3)

Advanced sound design. Topics include digital audio workstation and reinforcement techniques and technologies. Class work will rely on production and studio work and exploration of advances in the technology and art of sound design. Prerequisite: TH 202

TH 304 Dramatic Writing (Credits: 4)

(Also listed as ENG 304.) Theory and practice of techniques of dramatic writing emphasizing writing of original plays. Prerequisite: ENG 111 and ENG 112

TH 310 Theatre Arts Management Practicum (Credits: 1 to 3)

Participation in university theatre arts management activities. Specific assignments determined at initial meeting.

TH 311 Oral Reading of Drama (Credits: 3)

Analysis and practice in reading from plays and dramatic poetry; reader's theatre; performance.

TH 315 Singing for the Actor III (Credits: 1)

For acting majors only. All students must have auditioned for and received departmental approval before registering for this class.

TH 316 Singing for the Actor III (Credits: 1)

For acting majors only. All students must have auditioned for and received departmental approval before registering for this class.

TH 317 Singing for the Actor III (Credits: 1)

For acting majors only. All students must have auditioned for and received departmental approval before registering for this class.

TH 319 Stage Lighting II (Credits: 3)

Continuation of Stage Lighting I. Further exploration of lighting technology and design aesthetics for more complex productions such as multi-set shows, musicals, and dance. Use of computer programs for planning and communicating design ideas. Prerequisite: TH 219

TH 320 Applied Theatre Technology I (Credits: 4 to 6)

Practical study in technical execution. Emphasis on daily operation of theatre production facilities and shops. Participation in all major department productions required. For B.F.A. design/technology majors only. Prerequisite: TH 210 and TH 227 and TH 228 and TH 229

TH 321 Scene Painting I (Credits: 3)

Introduction to the materials and techniques used in traditional scenic painting, from basic skills (including graining, spattering, wet-blending) to the manipulation of light, shadow, and texture to create three-dimensional effects. Prerequisite: TH 225

TH 322 Scene Painting II (Credits: 3)

Further development of the skills taught in Scene Painting I, with emphasis on rendering volume, light, and realistic surface texture. Includes working portraiture, foliage, and rendering of draped fabric. Prerequisite: TH 321

TH 323 Scene Painting III (Credits: 3)

Continued work in trompe l'oeil techniques, emphasizing ability to reproduce accurately from source material. Introduction to the use of applied textures and painting translucencies.
Prerequisite: TH 322

TH 324 Lighting Design (Credits: 3)

Study of lighting design and the behavior of light as an expressive medium of theatrical design. Includes project work with an emphasis on professional technique.

TH 325 Set Design (Credits: 3)

Study of scenic design and the dynamics of stage space use. Includes project design work with an emphasis on professional technique and period design.

TH 326 Costume Design (Credits: 3)

Study of costume design for the theatre. Includes project design work with an emphasis on professional technique and period design.

TH 328 Decorative Style Through the Ages (Credits: 3)

Development of dominant characteristics of the history of architecture, furniture, and ornamental design and how they relate to abstract elements of taste, design, composition, and color.

TH 329 Costume History (Credits: 3)

Costume and fashion from prehistoric to modern times. Overview of the history of costume and fashion and how it relates to theatre.

TH 332 Automated Lighting (Credits: 3)

Introduction to automated lighting, with an emphasis on the skills needed to operate moving lights and effectively program consoles. Aesthetic and practical considerations regarding the use of moving lights in theatrical productions.
Prerequisite: TH 319

TH 333 Computer Graphics for Theatre I (Credits: 3)

An introduction to the computer-aided drafting programs AutoCAD and VectorWorks. The student's basic skills are developed through several projects including orthographic projections, designer's elevations, groundplans and light plots.
Prerequisite: TH 224

TH 334 Stitching (Credits: 3)

This course introduces the costume student to advanced stitching techniques necessary for costume construction.

TH 335 Costume Crafts (Credits: 3)

This course introduces the student to creative, innovative, and often inexpensive alternatives for the creation of jewelry appliqué, embellishments, armor, crowns, and basic millinery techniques for theatrical production.

TH 336 Pattern Drafting and Draping (Credits: 3)

This course will cover the basic principles of pattern drafting, flat patterning, and draping of the female bodice.

TH 337 Music Theatre Performance (Credits: 3)

Scene study class designed to integrate acting training with music and dance skills using major texts from musical theatre.

TH 338 Music Theatre Performance (Credits: 3)

Scene study class designed to integrate acting training with music and dance skills using major texts from musical theatre.

TH 339 Music Theatre Performance (Credits: 3)

Scene study class designed to integrate acting training with music and dance skills using major texts from musical theatre.

TH 340 Movement for Actor II (Credits: 2)

Basic movement skills such as period movement, dancing, and stage combat as they relate to performing; designed to give the performer total perception and to discover the physical and psychological stimulus for movement. For studio acting majors only.

TH 341 Movement for Actor II (Credits: 2)

Basic movement skills such as period movement, dancing, and stage combat as they relate to performing; designed to give the performer total perception and to discover the physical and psychological stimulus for movement. For studio acting majors only.

TH 342 Movement for Actor II (Credits: 2)

Basic movement skills such as period movement, dancing, and stage combat as they relate to performing; designed to give the performer total perception and to discover the physical and psychological stimulus for movement. For studio acting majors only.
Prerequisite: TH 341

TH 344 Acting III (Credits: 3)

First year of Professional Actor Training program. Must be taken in sequence. All students must receive a grade of C or better to continue in sequence.

TH 345 Acting III (Credits: 3)

First year of Professional Actor Training program. Must be taken in sequence. All students must receive a grade of C or better to continue in sequence.

TH 346 Acting III (Credits: 3)

First year of Professional Actor Training program. Must be taken in sequence. All students must receive a grade of C or better to continue in sequence.
Prerequisite: TH 345

TH 347 One Person Show (Credits: 3)

Provides a foundation for the senior thesis project. Elements necessary in the development of a one person show will be taught, concluding in a solo performance.

TH 350 Directing (Credits: 4)

Problems of script selection and interpretation, casting, rehearsing, and performance. Techniques of composition and movement; the proscenium stage and open stage. Preparation of the prompt book.

TH 351 Stage Management (Credits: 3)

This course develops the skills required of the working stage manager. Through lecture, discussion, and application, students work problems of stage management through to practical solutions. Department permission required.

Prerequisite: TH 214

TH 352 Directing Laboratory (Credits: 2)

Presentation of a one-act play in the studio theatre for departmental and public audiences.

Prerequisite: TH 350

TH 354 Theatre Speech II (Credits: 2)

Speech for the classical stage. Emphasis on unique demands of communication of dramatic verse text through exploration of Shakespeare, Molière, and Restoration playwrights. Particular attention given to diction or the art of emphasis to illuminate poetic language.

TH 355 Theatre Speech II (Credits: 2)

Speech for the classical stage. Emphasis on unique demands of communication of dramatic verse text through exploration of Shakespeare, Molière, and Restoration playwrights. Particular attention given to diction or the art of emphasis to illuminate poetic language.

TH 356 Theatre Speech II (Credits: 2)

Speech for the classical stage. Emphasis on unique demands of communication of dramatic verse text through exploration of Shakespeare, Molière, and Restoration playwrights. Particular attention given to diction or the art of emphasis to illuminate poetic language.

TH 357 Singing—Musical Theatre (Credits: 2)

Private singing lessons for musical theatre acting majors.

TH 358 Singing—Musical Theatre (Credits: 2)

Private singing lessons for musical theatre acting majors.

TH 359 Singing—Musical Theatre (Credits: 2)

Private singing lessons for musical theatre acting majors.

TH 360 History of the Theatre I (Credits: 3)

Survey of the history and development of theatrical production from the Greeks through the renaissance and including primitive forms both ancient and contemporary. Emphasis on the history of play production rather than on literature.

Prerequisite: TH 101

TH 361 History of the Theatre II (Credits: 3)

Survey of the history and development of theatrical production from the 17th century through the present day. Emphasis on the history of play production.

Prerequisite: TH 101

TH 362 Style and Concept (Credits: 3)

An investigation of the development of production concept in terms of visual and intellectual style choices in performance, interpretation and design.

TH 365 Theory and Criticism (Credits: 3)

Changing concepts of dramatic structure and criticism through comparative examination of works of selected playwrights and critics. Chief theories of dramatic production in relation to aesthetic principles.

TH 366 Theatre Repertoire I (Credits: 3)

Special problems of analysis, acting, and staging plays from various periods of theatre history are explored from a production point of view. From Aeschylus to Jonson.

TH 367 Theatre Repertoire II (Credits: 3)

Special problems of analysis, acting, and staging plays from various periods of theatre history are explored from a production point of view. From Beaumont to Chekhov.

TH 368 Theatre Repertoire III (Credits: 3)

Special problems of analysis, acting, and staging plays from various periods of theatre history are explored from a production point of view. From Shaw to Albee.

TH 370 Creative Dynamics (Credits: 3)

Study of the nature of creativity in children and of the techniques that develop sensitivity, bodily freedom, characterization, and impression.

TH 371 Musical Theatre Score and Libretto Analysis (Credits: 2)

Examines a variety of complete texts from the musical theatre to develop music and text analysis skills for acting, directing, or choreography.

TH 372 Musical Theatre History and Literature (Credits: 3)

Survey of the history and literature of the musical theatre from opera and operetta through contemporary Broadway productions. Examination of the various popular influences on the form. Includes viewing film and videotaped productions.

TH 373 Musical Theatre History and Literature II (Credits: 3)

Survey of the history and literature of the musical theatre from opera and operetta through contemporary Broadway productions. Examination of the various popular influences on the form. Includes viewing film and videotaped productions.

TH 375 Theatre Management (Credits: 3)

Operational procedures for school, community, and professional theatre. Includes problems of organization, personnel, budgeting, purchasing, accounting, ticket sales, publicity, promotion, and house management.

Prerequisite: TH 101

TH 376 Design Studio (Credits: 2)

Study of theatrical costume, scenery, lighting and sound design. Includes theoretical design work, and practical design work with an emphasis in the area of interest.

Prerequisite: TH 210 and TH 301

TH 380 Theatre History and Literature I (Credits: 3)

This course offers students a variety of analytical methods for exploring a range of theatrical texts. Primary focus is on thematic, structural and formal aspects of analysis.

TH 381 Theatre History and Literature II (Credits: 3)

This course offers students a variety of analytical methods for exploring a range of theatrical texts. Primary focus is on thematic, structural and formal aspects of analysis.

Prerequisite: TH 380

TH 382 Theatre History and Literature III (Credits: 3 to 5)

Exploration of theatre from post-WWII to the present, within social and historical contexts. Emphasis on production practice and its effect on subsequent periods.

Prerequisite: TH 380 and TH 381

TH 390 Projects in Theatre (Credits: 2 to 4)

Advanced individual work.

TH 399 Studies in Selected Subjects (Credits: 1 to 4)

Course of variable content dealing with problems, approaches, and topics in the field of theatre.

TH 410 Stage Management Practicum (Credits: 1 to 3)

Participation in university theatre stage management activities. Specific assignments determined at initial meeting.

TH 412 Advanced Stage Makeup (Credits: 3)

Design and application of the advanced makeup techniques of prosthetics, hair ventilation and wig making.

TH 413 The Acting Profession (Credits: 3)

Provides intensive study and practical projects to prepare for a professional acting career. Agents, unions, auditions, markets (NYC, L.A., Chicago, etc.), and marketing tools (headshots, resumes, etc.) will be covered.

TH 415 Singing for the Actor IV (Credits: 1)

For acting majors only. All students must have auditioned for and received departmental approval before registering for this class.

TH 416 Singing for the Actor IV (Credits: 1)

For acting majors only. All students must have auditioned for and received departmental approval before registering for this class.

TH 417 Singing for the Actor IV (Credits: 1)

For acting majors only. All students must have auditioned for and received departmental approval before registering for this class.

Prerequisite: TH 416

TH 419 Stage Lighting III (Credits: 3)

Advanced study of lighting design for theatre, opera, dance and other theatrical genres. Emphasis on discussion and critique of actualized productions. Students complete design projects that improve upon script analysis, research, and presentation skills.

Prerequisite: TH 319

TH 420 Applied Theatre Technology II (Credits: 2 to 6)

Intensive study of selected aspects of technical theatre. Titles vary.

Prerequisite: TH 320

TH 423 Costume Design II (Credits: 3)

Advanced study of costume design. Students will complete projects that illustrate inspiration, illustration, planning, designing and presentation. There will be group discussion and critique of individual projects.

Prerequisite: TH 326

TH 424 Advanced Design Studio (Credits: 2 to 6)

Intensive study of theatrical costumes, scenery, and lighting with a focus on script interpretation. Includes practical design work with an emphasis on produced designs, professional development, and specialization in the students' area of design.

TH 425 Advanced Design Studio (Credits: 4 to 6)

Intensive study of theatrical costumes, scenery, and lighting with a focus on script interpretation. Includes practical design work with an emphasis on produced designs, professional development, and specialization in the students' area of design.

TH 426 Advanced Design Studio (Credits: 6)

Intensive study of theatrical costumes, scenery, and lighting with a focus on script interpretation. Includes practical design work with an emphasis on produced designs, professional development, and specialization in the students' area of design.

Prerequisite: TH 425

TH 427 Advanced Stagecraft (Credits: 3)

Advanced study of stagecraft practices including complex scenery layout, rigging, power drive systems, and materials. For B.F.A. design/technology majors only.

TH 428 Advanced Costume Technology (Credits: 3)
Advanced techniques of costume technology with emphasis on developing patterns, cutting and draping and drafting.

TH 429 Advanced Theatre Crafts (Credits: 3)
Lecture/workshop class with variable topics including property and furniture building, scenic painting, welding, draping, etc. Topics vary.

TH 434 Theatrical Rigging (Credits: 3)
The student will learn how to design and use rigging systems in theatrical settings. Emphasis will be placed on proper selection and use of rigging hardware and equipment, and fall protection.
Prerequisite: TH 220 and TH 210

TH 435 Portfolio Preparation and Presentation (Credits: 3)
Designed to prepare upper-division students for the transition into the professional world. Portfolio formats, both traditional and digital, will be investigated. Effective techniques for the presentation of portfolios and employment strategies will be stressed.

TH 436 Theatre Graphics: Rendering (Credits: 3)
Further development of skills used in creating theatrical renderings, costume plates, and lighting sketches. Emphasis on figure drawing, depicting light and shadow, and exploration of traditional and non-traditional media and techniques.
Prerequisite: TH 225

TH 437 Musical Theatre Studies (Credits: 3)
Study of the performance problems associated with a selected composer or genre. Topics vary.
Prerequisite: TH 337 and TH 338 and TH 339

TH 438 Musical Theatre Thesis Rehearsal (Credits: 3)
Preparation of the musical theatre thesis including the technical and production needs for the special thesis production.

TH 439 Musical Theatre Thesis (Credits: 3)
Performance(s) of specially created theatre piece utilizing all musical theatre emphasis majors. This performance may serve as a showcase for theatrical agents and professional casting personnel.

TH 440 Movement for Actor III (Credits: 2)
Visualizing techniques along with specific analysis of the ideas of LeCoq, Marceau, Alexander, Davis, and others. For B.F.A. studio acting majors only.

TH 441 Movement for Actor III (Credits: 2)
Visualizing techniques along with specific analysis of the ideas of LeCoq, Marceau, Alexander, Davis, and others. For B.F.A. studio acting majors only.

TH 442 Movement for Actor III (Credits: 2)
Visualizing techniques along with specific analysis of the ideas of LeCoq, Marceau, Alexander, Davis, and others. For B.F.A. studio acting majors only.

TH 444 Acting IV (Credits: 3)
Second year of Professional Actor Training program.

TH 445 Acting IV (Credits: 3)
Second year of Professional Actor Training program.

TH 446 Acting IV (Credits: 3)
Second year of Professional Actor Training program.
Prerequisite: TH 445

TH 447 Acting Thesis Project (Credits: 3)
Intensive work on a final creative performance project. For senior acting studio majors only. Graded pass/unsatisfactory.

TH 448 Acting Thesis Project (Credits: 3)
Intensive work on a final creative performance project. Open only to acting studio seniors.
Prerequisite: TH 444

TH 450 Studies in Directing (Credits: 3)
Provides intensive study of selected aspects of directing for the theatre. Titles vary.

TH 451 Directing Thesis Project (Credits: 3)
Original directed research culminating in a creative performance project. For B.F.A. directing majors only.
Prerequisite: TH 350

TH 452 Directing Thesis Project (Credits: 3)
Original directed research culminating in a creative performance project. For B.F.A. directing majors only.
Prerequisite: TH 352

TH 454 Theatre Speech III (Credits: 2)
Thorough analysis and study of sounds of foreign dialects and regional accents. Students explore transformation of their own voices. Students also learn to vary their stage voices for age and character roles.

TH 455 Theatre Speech III (Credits: 2)
Thorough analysis and study of sounds of foreign dialects and regional accents. Students explore transformation of their own voices. Students also learn to vary their stage voices for age and character roles.

TH 456 Theatre Speech III (Credits: 2)
Thorough analysis and study of sounds of foreign dialects and regional accents. Students explore transformation of their own voices. Students also learn to vary their stage voices for age and character roles.

TH 457 Singing-Musical Theatre (Credits: 2)
Private singing lessons for musical theatre acting majors.

TH 458 Singing-Musical Theatre (Credits: 2)
Private singing lessons for musical theatre acting majors.

TH 459 Singing-Musical Theatre (Credits: 2)

Private singing lessons for musical theatre acting majors.

TH 460 Studies in Theatre History (Credits: 3)

Courses offered under this title provide an intensive study of a selected aspect of theatre history. Exact title announced each time the course is offered.

TH 470 Studies in Child Drama (Credits: 3)

Courses offered under this title provide an intensive study of a selected aspect of child drama. Exact title announced each time the course is offered.

Prerequisite: TH 101 or TH 370

TH 495 Workshop in Theatre: Summer Theatre (Credits: 3 to 12)

Intensive study of special topics or problems, or intensive experience in theatrical presentation according to particular needs of participants. Titles vary.

TH 498 Professional Theatre Internship (Credits: 12 to 15)

Placement of superior upper-division B.F.A. theatre majors in various professional theatres as management or production interns. For B.F.A. theatre majors only.

Technical Management/TMG

TMG 202 Labor Relations (Credits: 3)

Consideration of the practices, principles and organization of collective bargaining. Study of the techniques of mediation and the agencies involved in mediation. Causes and cures of labor disputes.

Prerequisite: TMG 201 or TMG 210

TMG 204 Fundamentals of Management (Credits: 4)

Basic fundamentals of the process of management applied to business organizations. Emphasis on the practical applications of techniques employed by managers at lower and middle organizational levels.

TMG 210 Personnel Management (Credits: 3)

Study of the characteristics, purposes, objectives, and techniques of supervision and coordination of the work of others. Discussions include employment interviewing, training procedures, supervision, and improvement of human relations.

Prerequisite: TMG 204

TMG 240 Wage and Salary Administration (Credits: 3)

An analysis of job evaluation for salary and hourly positions, job designs, compensation structures, and fringe benefit and retirement fund administration.

Prerequisite: TMG 201 or TMG 210

TMG 250 Purchasing (Credits: 3)

Composition of a buy office, buying the right quality from the right vendor, buying to support inventory control, make versus buy philosophy, and some legal aspects of buying.

Prerequisite: TMK 202 and TMG 201

TMG 270 Production Management (Credits: 3)

Introduction to the functions making up the production system, including product parts manufacture, process routing, quality standards, work measurement, work methods, scheduling, and inventory control.

Prerequisite: TMG 204

TMG 280 Small Business Management (Credits: 3)

Stresses business management functions important to small businesses, including single ownership, partnership, incorporation, capitalization and financing requirements, legal requirements, production, and marketing arrangements.

TMG 290 Comprehensive Management (Credits: 4)

A capstone course designed to integrate the student's two-year program into a cohesive management program and to promote management problem solving capabilities.

Prerequisite: TMG 202 and TMK 202

TMG 295 Independent Study (Credits: 1 to 3)

Directed study on selected topics.

TMG 297 Studies in Selected Subjects (Credits: 1 to 5)

Course of variable content dealing with problems, approaches, and topics in the field management. May be taken as often as topics vary.

TMG 299 Internship (Credits: 4)

Practical business experience in management for qualified students under the joint planning and coordination of faculty, student, and business representatives. Completion of 60 hours of course work required.

Technical Marketing/TMK

TMK 200 Basic Marketing (Credits: 4)

Study of the functions of marketing in the American business system with emphasis on economic and social determinants.

Prerequisite: EC 201 and MTH 127

TMK 202 Basic Marketing II (Credits: 3)

Practical evaluation of marketing functions relative to the product development promotion, pricing, distribution, and establishing marketing objectives.

Prerequisite: TMK 201

TMK 210 Promotion (Credits: 3)

Use of personal selling, sales promotion and advertising techniques.

Prerequisite: TMK 201

TMK 220 Retailing (Credits: 3)

Study of the marketing functions at the retail level. Emphasis on institutional practices at various types of retail establishments.
Prerequisite: TMG 201 and MTH 127

TMK 228 Retail Management (Credits: 3)

Concentrates on merchandise management and retail control. Includes application of buying procedures and analysis of current merchandising policies.
Prerequisite: TMK 202 and TMK 220

TMK 240 Salesmanship and Sales Supervision (Credits: 3)

An analysis of personal skills essential to successful selling. An understanding of the personal characteristics and merchandising knowledge necessary for customer development are discussed. Mass and personalized methods of sales supervision are considered.
Prerequisite: TMK 201

TMK 290 Comprehensive Marketing (Credits: 4)

A capstone course designed to integrate the student's two-year program into a cohesive marketing program and to promote marketing problem solving capabilities.

TMK 295 Independent Study (Credits: 1 to 3)

Directed study on selected topics.

TMK 297 Studies in Selected Subjects (Credits: 1 to 5)

Course of variable content dealing with problems, approaches, and topics in the field marketing. May be taken as often as topics vary.

TMK 299 Internship (Credits: 4)

Practical business in retail marketing for qualified students under the joint planning and coordination of faculty, students, and business representatives. Completion of 60 hours course work required.

Technical Mathematics/TMT**TMT 113 Technical Mathematics I (Credits: 4)**

Course includes an introduction to the real number system, operations with signed numbers, solving first degree equations, products and factoring of monomials and polynomials, working with solving equations, radicals, and an introduction to right triangular trigonometry.
Prerequisite: Sufficient score on the math placement test.

TMT 114 Technical Mathematics II (Credits: 4)

Course includes work with vectors; j operator logarithmic functions, solving equations, inequalities, properties of the trigonometric functions, and variations.
Prerequisite: TMT 113.

TMT 116 Technical Calculus (Credits: 4)

Introduces topics of calculus such as limits, derivative and applications, integration and applications, differentiation of transcendental functions, and methods of integration.
Prerequisite: TMT 115.

Technical Office Administration/TOA**TOA 101 Professional Development I (Credits: 1)**

Emphasizes professional development in office procedures, dress, personality, leadership, and other aspects of business etiquette.

TOA 102 Professional Development II (Credits: 1)

Emphasizes professional development in office procedures, dress, personality, leadership, and other aspects of business etiquette.

TOA 103 Professional Development III (Credits: 1)

Emphasizes professional development in office procedures, dress, personality, leadership, and other aspects of business etiquette.

TOA 104 Professional Development IV (Credits: 1)

Emphasizes professional development in office procedures, dress, personality, leadership, and other aspects of business etiquette.

TOA 105 Professional Development V (Credits: 1)

Emphasizes professional development in office procedures, dress, personality, leadership, and other aspects of business etiquette.

TOA 106 Professional Development VI (Credits: 1)

Emphasizes professional development in office procedures, dress, personality, leadership, and other aspects of business etiquette.

TOA 110 Keyboarding (Credits: 1)

Basic keyboarding instruction in touch typewriting on an alphanumeric key board.

TOA 111 Speedwriting I (Credits: 3)

Covers skills in writing and reading alphabetic shorthand with emphasis on diction and transcription.
Prerequisite: OA 211

TOA 112 Speedwriting II (Credits: 3)

Continuation of TOA 111 and Speedwriting I, with emphasis on speed and production of documents.
Prerequisite: TOA 111 and OA 211

TOA 115 Business/Office Correspondence (Credits: 3)

Study of terminology and formats used in business communication: letters, reports, memos, diction, grammar fundamentals, sentence construction, punctuation rules, and spelling.

TOA 200 Software Applications (Credits: 3)

Study of computer skills by utilizing various software packages for legal, medical, and administrative office applications. Two hours lecture, two hours lab.
Prerequisite: CS 205 and OA 211

TOA 205 Presentation Skills (Credits: 3)

Professional speaking and electronic presentation skills will be developed using various software packages. Students will understand how to choose and create the most appropriate multimedia method for delivery of the message.

Prerequisite: ENG 102

TOA 210 Job Search/Portfolio Development (Credits: 4)

An exploration of job hunting skills, resume writing, interviewing techniques, and proper employment seeking skills. Sophomore standing required.

TOA 223 Word Process Simulations (Credits: 3)

Simulations in word processing functions using merge, list processing, math and sort. Covers medical, legal, and executive situations. Six hours lab.

TOA 224 Office Procedures I (Credits: 3)

Integrates the development of operational functions and decision-making competencies. Simulations in executive, medical, and legal procedures including experiences in telephone and communication techniques, word processing, and administrative services.

TOA 225 Office Procedures II (Credits: 3)

Continuation of TOA 224.

TOA 226 Office Procedures III (Credits: 3)

Continuation of TOA 225.

TOA 230 Records Management (Credits: 3)

Filing systems and procedures. Combines technical aspects of records technique with sound principles of management.

TOA 231 Office Management (Credits: 3)

Office organization; emphasis on work flow, proper equipment, problems in supervision, human relations, and management techniques.

TOA 233 Machine Transcription I (Credits: 3)

Executive, medical, and legal transcription from cassettes, emphasizing skills needed in today's work processing environment. Two hours lecture, two hours lab.

TOA 234 Machine Transcription II (Credits: 3)

Continuation of TOA 233 including executive, medical, and legal projects. Two hours lecture, two hours lab.

TOA 235 Calculator Applications (Credits: 3)

Operation of electronic display and printing calculators with business math and office applications. Two hours lecture, two hours lab.

TOA 241 Desktop Publishing I (Credits: 3)

Business course using a computer graphic design system to produce typeset-quality text and graphics such as newsletters, letterheads, brochures, and manuals. Two hours lecture, two hours lab.

TOA 242 Desktop Publishing II (Credits: 3)

Continuation of TOA 241 using more advanced features and applications of graphics and software programs. Two hours lecture, two hour lab.

TOA 243 Desktop Publishing III (Credits: 3)

An overview of desktop publishing systems using advanced concepts and terminology. Study of the principles of design and the publishing cycle. One hour lecture, four hours lab.

Prerequisite: TOA 241 and TOA 242

TOA 244 Advanced Desktop Publishing (Credits: 3)

Continuation of TOA 243 covering basic news story and news writing format. The student will design and publish a newspaper using desktop publishing software and appropriate news writing techniques.

TOA 250 Executive Terminology (Credits: 3)

Study of executive terminology and other basic aspects of the executive assistant profession.

TOA 251 Legal Terminology (Credits: 3)

Study of legal terminology and other basic aspects of the legal assistant profession.

TOA 252 Medical Terminology (Credits: 3)

Study of medical terminology and other basic aspects of the medical assistant profession.

TOA 253 Medical Terminology II (Credits: 3)

Continuation of TOA 252. Covers basic vocabulary utilized in medical office.

Prerequisite: TOA 252

TOA 255 Medical Coding (Credits: 3)

Study of medical skills in CPT coding for insurance and medical documents using reference manuals and computer software.

Prerequisite: TOA 253

TOA 295 Independent Study (Credits: 1 to 3)

Directed study on selected topics.

TOA 297 Studies in Selected Subjects (Credits: 1 to 5)

Problems, approaches, and topics in the field of office administration. May be taken for letter grade or pass/unsatisfactory. Titles vary.

TOA 299 Internship (Credits: 4)

Practical secretarial experience under the joint planning and coordination of faculty, student, and business representative. Completion of 60 hours of course work required. May be taken for a letter grade of pass/unsatisfactory.

Technical Study Skills/TSS

TSS 51 Reading Comprehension I (Credits: 1)

Emphasis will be placed on improving reading skills, comprehension, concentration, and related vocabulary development. This will be accomplished by utilizing individualized instruction in sequenced kits and other related materials.

TSS 52 Reading Comprehension II (Credits: 1)

Continuation of TSS 051. Emphasis will be placed on improving reading skills, comprehension, concentration, and related vocabulary development. This will be accomplished by utilizing individualized instruction in sequenced kits and other related materials.

TSS 61 Vocabulary Development I (Credits: 1)

This is an individualized course which allows students to proceed at their own pace (within reason as stipulated by the instructor) and provides students with one on one instruction to enhance their individual needs whether it is to develop a "working vocabulary" needed to succeed in other courses presently enrolled in or those to be taken in the future. Students work toward improved vocabulary, concentrating on techniques of unlocking meaning through contextual clues and knowledge of Latin and Greek roots, prefixes and suffixes. Students will also formulate data retention cards to master specific or general vocabulary of a discipline/course.

TSS 62 Vocabulary Development II (Credits: 1)

Continuation of TSS 061. This is an individualized course which allows students to proceed at their own pace (within reason as stipulated by the instructor) and provides students with one on one instruction to enhance their individual needs whether it is to develop a "working vocabulary" needed to succeed in other courses presently enrolled in or those to be taken in the future. Students work toward improved vocabulary, concentrating on techniques of unlocking meaning through contextual clues and knowledge of Latin and Greek roots, prefixes and suffixes. Students will also formulate data retention cards to master specific or general vocabulary of a discipline/course.

TSS 71 Speed Reading I (Credits: 1)

This course is designed to satisfy individual needs of college students interested in enhancing their ability to become more flexible reader regardless of their major or discipline of study. Emphasis will be placed on refining reading skills, improving rate, comprehension and efficiency. Individual improvement will be the goal with no limits as to how much a student may improve in his/her ability to read. This course is recommended only for those students who already read adequately, but desire techniques that will decrease the amount of time spent in reading and help determine at what rate different materials should be read.

TSS 72 Speed Reading II (Credits: 1)

This course is designed to satisfy individual needs of college students interested in enhancing their ability to become more flexible reader regardless of their major or discipline of study. Emphasis will be placed on refining reading skills, improving rate, comprehension and efficiency. Individual improvement will be the goal with no limits as to how much a student may improve in his/her ability to read. This course is recommended only for those students who already read adequately, but desire techniques that will decrease the amount of time spent in reading and help determine at what rate different materials should be read.

University Honors/UH

UH 101 Directed Study (Credits: 1 to 4)

Faculty-directed research or reading.

UH 201 Studies in the Humanities (Credits: 3 to 4)

Explores the humanities comparatively, stressing similarities and differences in themes, methods, materials, theoretical constructs, and problems. Focuses on such topics as humanity and freedom or the city and the individual.

UH 202 Studies in Social Sciences (Credits: 3 to 4)

Explores the social sciences comparatively, stressing similarities and differences in themes, methods, materials, theoretical constructs, and problems. Focuses on such topics as people and groups or institutions and bureaucracies.

UH 203 Studies in the Natural Science (Credits: 4)

Varying topics or issues in the natural sciences approached in an interdisciplinary framework. Course permits intensive coverage of subject matter while also focusing on the interrelationships of the natural scientific disciplines.

UH 400 University Honors Seminar (Credits: 3 to 4)

Emphasis on broadly interdisciplinary topics or issues. Topics vary.

Urban Studies/URS

URS 200 Growth and Change in Urban Society (Credits: 4)

An interdisciplinary view of growth and change in urban societies around the globe. Case studies illustrate how urbanization, technology development and the administrative state intertwine and affect economic and population growth and change.

URS 311 Introduction to Urban Affairs (Credits: 4)

Interdisciplinary introduction to general field of urban affairs. Reviews idea of the city and meaning of urban life.

URS 316 American Urban History (Credits: 4)

Urban history in its broadest sense from the ancient world to the present, providing historical perspective to the contemporary urban-metropolitan phenomenon and exploring how and why urban civilization came to be.

URS 317 Urban Planning I: Introduction to Urban Planning (Credits: 4)

(Also listed as GEO 317.) Examination of the development of city planning as a professional discipline. Consideration of the contributions to planning by the arts and sciences. Selected activities and functions of contemporary urban planning agencies are viewed from the perspective of current urban problems.

URS 318 Urban Planning II: Principles of Planning (Credits: 4)

(Also listed as GEO 318.) Includes the role of planning in urban structures, and duties and responsibilities of planning commissions; process of preparing comprehensive plans; population change, the economic base, and determinants of future urban structure.
Prerequisite: URS 317

URS 321 City Politics (Credits: 4)

(Also listed as PLS 321.) Governments and politics of metropolitan regions, government structure and functions, and interest and power relations.

URS 345 Public Administration (Credits: 4)

(Also listed as PLS 345.) Nature and scope of public administration; administrative law; and public interest in the administrative process.

URS 346 Public Personnel Administration (Credits: 4)

(Also listed as PLS 346.) Methods of employment, training, compensation, and employee relations in various levels of civil service. Examines organizations of public employees.

URS 399 Studies in Selected Subjects (Credits: 4)

Problems, approaches, and topics in the field of urban affairs. Topics vary.

URS 410 Urban Empirical Research (Credits: 4)

Introduces students to research and data collection methods used to explore and explain urban issues. Preparation course for URS 411 and students interested in empirical research. Investigates what makes research useful, valid, and ethical. Requires evaluating and developing research designs.

URS 411 Seminar in Urban Affairs (Credits: 4)

Includes development of a major research paper and a bibliography in urban affairs.

URS 412 Cities and Technology (Credits: 4)

Cities and technology deals with the evolving relationship between technology and urban growth, physical form, government, and politics. Explores how technological fixes for complex urban problems have shaped urban development and politics.

URS 413 Legal Environment of Public Administration (Credits: 4)

Examines the constitutional context of public administration and administrative rulemaking. Topics include local rules and codes, the administrative appeals process, and sunshine and public records law.

URS 414 Public Fiscal Administration (Credits: 4)

Examines local fiscal institutions and introduces analytical tools for designing and evaluating fiscal policies. Reviews financial reporting and accounting, the municipal bond market, pension systems, state and local taxes, user charges, and intergovernmental relations.

URS 415 Community Development I (Credits: 4)

Focuses on the importance, the profession, and the practice of community development. Introduces theories of community and development and studies current neighborhood programs and policies.

URS 416 Community Development II (Credits: 4)

Examines three fundamental organizing strategies—self-help, technical assistance, and conflict—which are used to improve a community's quality of life. The course combines classroom learning and field observation.
Prerequisite: URS 415

URS 417 Public Sector Labor Relations (Credits: 4)

Examines collective bargaining, the negotiation process, impasse resolution, and contract and grievance administration in local government.

URS 420 Public Safety Administration (Credits: 4)

Policing, corrections, fire, emergency medical services, and emergency management systems will be surveyed to provide an understanding of the services offered, technologies used, problems faced, and alternatives available in each of the areas.

URS 421 Comparative Public Administration (Credits: 4)

Investigates changes in public administration in the USA and internationally that are caused by globalization and urbanization. The changes relate to organizational structure, functions, partnerships, and values.

URS 423 Issues in Metropolitan Administration (Credits: 4)

Courses taught under this title will explore issues and topics related to the administration of nonprofit organizations, community development agencies, and local governments in metropolitan areas.

URS 424 Issues in Metropolitan Planning (Credits: 4)

Various issues related to planning metropolitan environments. Topics may include housing, strategic planning, and growth and regionalism.

URS 425 Issues in Metropolitan Development (Credits: 4)

Explores issues that impact metropolitan development such as pollution, the nonprofit sector, and transportation.

URS 427 Urban Policy Analysis (Credits: 4)

(Also listed as PLS 427.) Study of the policy development process and its relationship to past and current urban issues. The course focuses on a current urban issue through discussion, reading, and research.

URS 446 Public Budgeting (Credits: 4)

(Also listed as PLS 446.) Examination of the major phase of the governmental budget cycle, types of budget, budgetary reform, economic and public impact of government budgeting, decision-making process, and legislative/executive relations in budget formation and implementation.

URS 450 Ethics in Public Service (Credits: 4)

Systematic development of ethics in public service, including individual roles and obligations, values, standards, and codes of conduct.

URS 470 Public and Nonprofit Leadership (Credits: 4)

Examines the leadership role of the urban administrator in formulating programs, policies, and service delivery options. Explores topics such as managing the internal and external environments, improving productivity and effectiveness, and policy/program creation.

URS 475 Management of Urban Nonprofit Agencies (Credits: 4)

Examines the organizational and managerial foundations of nonprofit organizations. Areas such as the nature and mission of nonprofit organizations, evaluating performance, resource development/fund-raising, and managing volunteers are explored.

URS 476 Fundraising and Grant Writing (Credits: 4)

Examines the concepts and processes fundamental to fundraising and grant writing. Students learn about and use tools, techniques and skills needed to raise funds and write grant proposals.

URS 477 Philanthropy in Urban Development (Credits: 4)

Introduction to the field of Philanthropy, its history and its place in democratic society. Students will be engaged in the practice and administration of philanthropic organizations.

URS 478 Managing Volunteer Organizations (Credits: 4)

Study of the knowledge and skills needed by individuals managing volunteers. Components include volunteer recruitment; training; motivation and retention; risk management; and volunteer program evaluation.

URS 490 Special Topics (Credits: 1 to 4)

Advanced study in selected topics in urban studies. Topics may include new developments in methodology or the various subfields of the discipline.

URS 491 Nonprofit Administration Independent Projects (Credits: 1 to 4)

Various topics such as board development, risk management, volunteer management, volunteer management, and program planning.

URS 492 Urban Affairs Internship (Credits: 4)

Senior-level internship in which students work in the offices of a local public agency.

University College/UVC

UVC 100 College Study Strategies (Credits: 1)

Offers how-to advice on topics such as note taking, time management, preparing for exams, textbook skills, memory training, library usage, etc. Individual and group study/counseling offered as time permits. Graded pass/unsatisfactory. (Previously listed as UD 100.)

UVC 101 First Year Seminar I (Credits: 2)

Interactive presentation and discussion of college student life and adjustment issues, academic strategies, academic requirements and information, organization of the university, and career development. (Previously listed as UD 101.)

UVC 102 First Year Seminar II (Credits: 1)

Continuation of UVC 101. Extends learning community participation. Uses students' first quarter experience to further facilitate adjustments to college. Graded pass/unsatisfactory. Prerequisite: UVC 101

UVC 103 Campus-Community Connections in the First Year (Credits: 2)

Connects students with the community through service learning to further facilitate college adjustment and develop foundations for lifelong service. Introduces concepts of community, citizenship, service and social issues being addressed by partnering community organizations.

UVC 104 Critical Reading (Credits: 3)

Critical analysis of content area readings. Emphasis on: recognizing organizational patterns; distinguishing fact from opinion; problem solving; logical reasoning; recognizing author's background, intent, attitude, bias and tone; making inferences; recognizing propaganda and persuasive writing.

UVC 107 Stress Management and Relaxation Techniques (Credits: 2)

Helps students learn how to manage stress better by using applications from cognitive psychology and experiential training in well established techniques. Graded pass/unsatisfactory.

UVC 110 Returning to Learning (Credits: 2)

Recommended for the nontraditional student who is beginning or reentering to college after a long absence. Topics include time management, reading for content, note taking, test taking, test anxiety, stress management, and making learning fun. Graded pass/unsatisfactory.

UVC III First Year Interest Group

Learning community students who participate in programs addressing unique issues may participate in Friday Interest Groups. Meeting once per week, Visions students will learn tips for success on a majority campus, for example.

Vocational Studies/VOE**VOE 401 Business and Marketing Education Program (Credits: 1 to 4)**

Designed to give the student valuable work experience in an actual marketing environment while being supervised/directed by a business or marketing educator.

VOE 402 Field Experience I (Credits: 1)

Students will be observing the 29 competencies required by the Division of Vocational and Career Education in a vocational laboratory setting.

VOE 403 Field Experience II (Credits: 1)

Students will be observing the 29 competencies required by the Division of Vocational and Career Education in vocationally related classes.

VOE 404 Field Experience III (Credits: 1)

Students will be observing the 29 competencies required by the Division of Vocational and Career Education in applied academic classes.
Prerequisite: VOE 403 and VOE 461

VOE 405 Field Experience IV (Credits: 1)

Students will be observing the 29 competencies required by the Division of Vocational and Career Education and will be placed in vocationally funded employability and entrepreneurship classes.

VOE 406 Survey of Workforce Education (Credits: 3)

An overview of the instructional programs in workforce education and their administration at the national, state, and local levels. Current legislation, school-to-work initiatives, tech prep, and trends affecting workforce programs are addressed and explored.

VOE 407 Workforce Education: Methods and Strategies in Transition to Work (Credits: 3)

The selection, implementation, and evaluation of school-to-work transition models in organizing and managing work and community-based education programs. Topics include career information resources, curriculum materials, and trends influencing work and careers.
Prerequisite: EDT 433

VOE 410 Laws and Regulations for Vocational Education (Credits: 3)

An analysis and discussion of the federal and state laws as they affect the local school agency in operating vocational education programs.

VOE 411 Workforce Classroom/Laboratory Management (Credits: 3)

Discusses strategies for selection and arrangement of learning activities in the classroom and laboratory setting, procedures for safety, handling and storage of materials and supplies, student personnel systems, records and reports, maintenance of equipment, rotation of assignments, and student evaluation.

VOE 412 School-Community Relations (Credits: 3)

A study of the role of the vocational school in the community including vocational school publics, theories of community power structure, and the vocational school with emphasis on methods of communication.

VOE 418 Historical and Philosophical Foundations of Vocational Education (Credits: 3)

Provides an introduction to the historical and philosophical antecedents to the present day vocational and technical education. It examines social influences which have affected legislation which supports vocational and technical education. Basic principles are introduced. Current trends and issues in vocational, technical, and career education are examined.

VOE 421 Classroom Management in Workforce Education (Credits: 3)

Current practice and innovation in the study of discipline models and their application in the classroom. Topics include the legal implications of classroom management.

VOE 431 Evaluation of Student Performance in Workforce Education (Credits: 3)

Evaluation of student learning and performance including forms of measurement and interpretation of data.

VOE 451 Introduction into Workforce Education (Credits: 3)

Provides students with a foundation for teaching workforce education competencies, philosophy, and instructional organization. Development of integrated workforce instructional plans is a major emphasis.
Prerequisite: VOE 471

VOE 456 Vocational Student Organization (Credits: 3)

An analysis of vocational youth organizations with emphasis on planning and conducting such programs.

VOE 458 Selection and Organization of Workforce Curriculum (Credits: 3)

Provides workforce educators the competencies necessary to identify, select, and organize curricular models and resources to develop a program course of study.
Prerequisite: VOE 457

VOE 463 Methods for Incorporating Academic Skills in the Vocational Program (Credits: 3)

An analysis of occupational tasks and competency lists to identify related math, science, or communication skills necessary to succeed as workers in modern society. Includes methods of teaching academics as applied to work or laboratory skills or operations.

VOE 464 Methods and Strategies for At-Risk Students (Credits: 3 to 9)

This course focuses on helping teachers develop skills in working with at-risk students enrolled in their programs. Emphasis will be on emotionally, academically, and economically disadvantaged risk students, examining the impact of culture on students and teachers and exploring alternative teaching strategies and program modifications.

VOE 469 Coordination Techniques in Workforce Education (Credits: 3)

Effective coordination strategies and procedures in the administration and management of cooperative programs in high schools, and in adult and postsecondary education.

VOE 470 Workshop in Vocational Education (Credits: 1 to 4)

Intensive practical study in vocational education.

VOE 471 Introduction to Workforce Teaching (Credits: 8)

The development of basic cognitive and performance skills in pedagogy required by new workforce teachers to earn a vocational teacher license.

VOE 472 Supervised Teaching in Workforce Education I (Credits: 3)

Development of basic knowledge, skills, and attitudes required for vocational certification of new, non-certified vocational teachers.

VOE 473 Supervised Teaching in Workforce Education II (Credits: 3)

Development of basic knowledge, skills, and attitudes required for vocational certification of new non-certified vocational teachers.

VOE 474 Supervised Teaching in Workforce Education III (Credits: 3)

Development of basic knowledge, skills and attitudes required for vocational certification of new, non-certified vocational teachers.

VOE 475 Workforce Teaching Follow-Up Workshop (Credits: 4)

Refinement of curriculum development, motivation, leadership, and human relations skills required by employed workforce education teachers.

Prerequisite: VOE 471 and VOE 472 and VOE 473 and VOE 474

VOE 476 Clinical Project in Vocational Education (Credits: 3)

Addresses special problem areas associated with motivating students, classroom management, discipline, handicapped and disadvantaged students, teacher liability, teaching and learning principles, instructional strategies, evaluation, advisory committees, curriculum, lesson planning, and/or safety.

Prerequisite: VOE 474

Women's Studies/WMS**WMS 200 Approaches to Women's Studies (Credits: 4)**

Introduces historical and contemporary feminist thought and explores the importance of gender as a category of analysis to understand social, cultural, political, and economic forces.

WMS 300 Women in Multicultural Perspective (Credits: 4)

Courses will survey special topics in gender history. Topics may include masculinity, femininity, sexuality, family, and women's history. Focus may be on one nation, region, or a comparative perspective.

WMS 399 Studies in Selected Subjects (Credits: 4)

Problems, approaches, and topics in the field of women's studies. Titles vary. Topics vary. May be taken for letter grade or pass/unsatisfactory. Prerequisite: WMS 200 or permission of instructor.

Prerequisite: WMS 200

WMS 400 Women in International Perspective (Credits: 4)

Course will allow intensive analysis of subjects in gender history. Topics may include masculinity, femininity, sexuality, family, and women's history. Focus may be on one nation, region, or a comparative perspective.

WMS 450 Feminist Thought (Credits: 4)

An exploration of feminist interpretations and critiques of Western political theory. An examination of the development of contemporary feminist political thought.

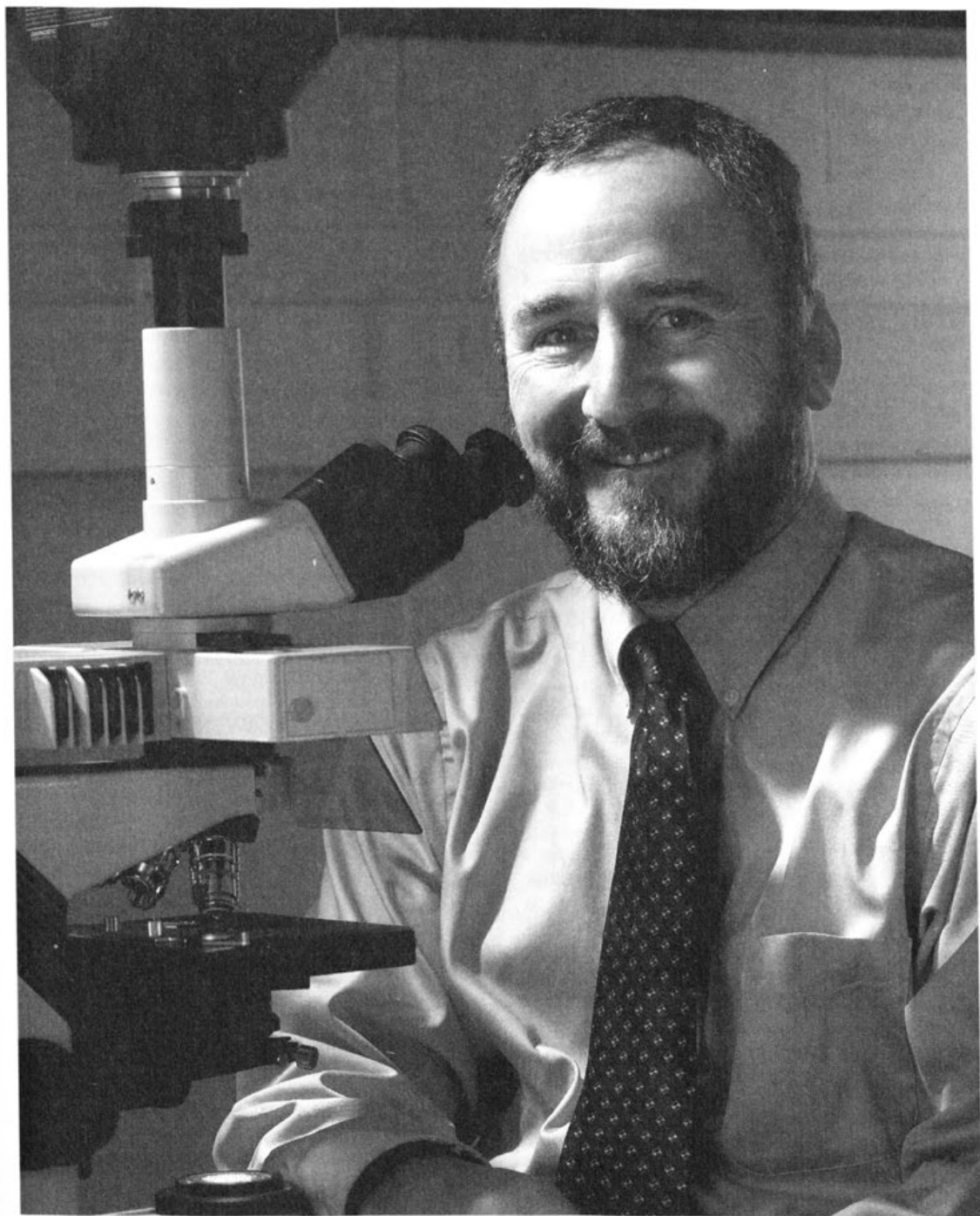
WMS 498 Independent Field Experience (Credits: 1 to 4)

Supervised individual projects that may involve internships with women's organizations or other field experiences. Titles vary. May be taken for letter grade or pass/unsatisfactory. Prerequisite: WMS 200 or permission of instructor. Prerequisite: WMS 200

WMS 499 Independent Study (Credits: 1 to 4)

Supervised individual research on selected topics. Arranged between students and faculty member directing the study. Titles vary. May be taken for letter grade or pass/unsatisfactory. Prerequisite: WMS 200 or permission of instructor. Prerequisite: WMS 200

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Alvarez-Leetmans, Francisco J. *Auxiliary Professor Pharmacology and Toxicology*

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- Barlow, Gary C.** *Professor Emeritus of Art Therapy and Art Education; University Professor; Coordinator, Art Therapy*
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- Barr, David L.** *Professor of Religion and Brage Golding Distinguished Professor of Research*
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- Barton, Christopher C.** *Professor of Geological Sciences and Department Chair*
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- Basista, Beth** *Associate Professor of Physics*
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- Bassett, Abe J.** *Professor Emeritus of Theatre Arts*
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B.S., 1956; M.B.A., 1957, Miami University

Wolfe, John R. *Adjunct Assistant Professor of Education, WSU-Lake Campus; Director of Academic and Instructional Services, WSU-Lake Campus*
A.A., 1975, Donnelly College; B.S., 1976,
Benedictine College; M.S., 1978, Kansas State
University; Ph.D., 1995, Bowling Green State
University

Wolfe, Paul J. *Professor Emeritus of Geological Sciences*
B.S., 1960, M.S., 1963, Ph.D., 1966, Case Institute of
Technology

Wolff, J. Mitch *Professor of Mechanical - Engineering*
B.S., 1983, M.S., 1989, Ph.D., 1995, Purdue
University

Wonders, Karen Y. *Assistant Professor of Exercise Science*

B.S., 2000, M.S., 2002, Slippery Rock University;
Ph.D., 2006, University of Northern Colorado

Wood, David R. *Professor Emeritus of Physics*
B.A., 1956, Friends University; M.S., 1958,
University of Michigan; Ph.D., 1967, Purdue
University

Wood, Timothy S. *Professor Emeritus of Biological Sciences*

A.B., 1964, Earlham College; Ph.D., 1971, University
of Colorado

Wood, William *Instructor and Coordinator of Financial Services*

M.S., 1981, University of Houston, CFP™, Financial
Planning

Wooley, Dawn P. *Associate Professor of Neuroscience, Cell Biology, and Physiology*
B.S., 1986, The Pennsylvania State University; Ph.D.,
1992, Harvard Medical School

Wu, Zhiqiang *Assistant Professor of Electrical Engineering*

B.S., 1993, Beijing University of Posts and
Telecommunications; M.S., 1996, Peking University;
Ph.D., Colorado State University

Wyatt, Christopher N. *Assistant Professor of Neuroscience, Cell Biology, and Physiology*
Ph.D., 1994, University of Leeds, United Kingdom

Xue, Kefu *Associate Professor of Electrical Engineering*

B.S., 1977, M.S., 1980, Shanghai Jiao Tong
University; Ph.D., 1987, The Pennsylvania State
University

Yen, Vincent C. *Professor of Management Information Systems*

B.Sc., 1966, National Taiwan Normal University
(Taiwan); M.A., 1969, University of Oregon; Ph.D.,
1975, The Ohio State University

Yi, Jung-Soo *Associate Professor of Communication*
B.S., 1987, M.A.I.S., 1989, Oregon State University;
Ph.D., 1997, The Pennsylvania State University

Young, H. Daniel. *Assistant Professor of Materials Science and Engineering*

B.S., 1993, University of Illinois, Champaign-
Urbana; M.S., 1997, Ph.D., 1999, University of
Maryland, College Park

Young, Joseph A. *Associate Professor Emeritus of Education*

B.S., 1953, University of Dayton; M.Ed., 1961,
Ed.D., 1971, Miami University

Yuan, Tsing *Associate Professor Emeritus of History*
B.A., 1960, M.A., 1962, George Washington
University; Ph.D., 1969, University of Pennsylvania

Zaytoun, Kelli D. *Assistant Professor of English and Director of Women's Studies*

B.A., 1986, M.S., 1988, Ph.D., 2003, Miami
University

Zhang, Xinhui *Assistant Professor of Biomedical, Industrial and Human Factors Engineering*

B.S.M.E., 1994, M.S.M.E., 1998, Huazhong
University of Science and Technology (China); Ph.D.,
2003, University of Texas at Austin

Zizzo, Paulette Y. *Instructor of Mathematics and Statistics,*
B.A., 1969, M.S.Ed., 1974, Youngstown State University

University Faculty Officers

President of the Faculty

Thomas A. Sudkamp

Past Faculty Presidents

James E. Sayer 2005–07

Drew Pringle 2004–05

Jack L. Dustin 2003–04

James E. Sayer 2002–03

Virginia Nehring 2001–02

James Walker 2000–01

David L. Barr 1999–2001

Robert J. Sweeney 1998–99

James E. Sayer 1997–98

Rudy Fichtenbaum 1996–97

Donna M. Schlagheck 1995–96

James E. Sayer 1994–95

Marguerite G. MacDonald 1993–94

Edgar A. Rutter 1992–93

Gregory Bernhardt 1991–92

Rudy Fichtenbaum 1990–91

James E. Sayer 1989–90

Alphonso L. Smith 1988–89

Jeanne Ballantine 1987–88

Richard Williams 1986–87

Robert Dixon 1985–86

Elizabeth Harden 1984–85

James Jacob 1983–84

Charles Hartmann 1982–83

Donald Pabst 1981–82

Lilburn Hoehn 1980–81

James E. Sayer 1979–80

Joseph Castellano 1978–79

Jacob Dorn 1977–78

Glenn Graham 1976–77

Barbara Dreher 1975–76

John Treacy 1974–75

Ira Fritz 1972–74

Lawrence Hussman 1971–72

Emil Kmetec 1968–71

Presiding Officers of Faculty Meetings

Norman Anon 1967–68

Edward Cox 1966–67

APPENDIX



Criteria for Ohio Residency

Ohio Administrative Code 3333-1-10.

Ohio Student Residency For State Subsidy And Tuition Surcharge Purposes

A) Intent and authority

- 1) It is the intent of the Ohio board of regents in promulgating this rule to exclude from treatment as residents, as that term is applied here, those persons who are present in the state of Ohio primarily for the purpose of receiving the benefit of a state-supported education.
- 2) This rule is adopted pursuant to Chapter 119 of the Revised Code, and under the authority conferred upon the Ohio board of regents by section 3333.31 of the Revised Code.

B) Definitions

For purposes of this rule:

- 1) "Resident" shall mean any person who maintains a twelve-month place or places of residence in Ohio, who is qualified as a resident to vote in Ohio and receive state public assistance and who may be subjected to tax liability under section 5747.02 of the Revised Code, provided such person has not, within the time prescribed by this rule, declared himself or herself to be or allowed himself or herself to remain a resident of any other state or nation for any of these or other purposes.
- 2) "Financial support" as used in this rule, shall not include grants, scholarships and awards from persons or entities which are not related to the recipient.
- 3) An "institution of higher education" shall have the same meaning as "state institution of higher education" as that term is defined in section 3345.011 of the Revised Code, and shall also include private medical and dental colleges which receive direct subsidy from the state of Ohio.
- 4) "Domicile" as used in this rule is a person's permanent place of abode so long as the person has the legal ability under federal and state law to reside permanently at that abode. For the purpose of this rule, only one domicile may be maintained at a given time.
- 5) "Dependent" shall mean a student who was claimed by at least one parent or guardian as a dependent on that person's internal revenue service tax filing for the previous tax year.
- 6) "Residency Officer" means the person or persons at an institution of higher education that has the responsibility for determining residency of students under this rule.
- 7) "Community Service Position" shall mean a position volunteering or working for:
 - a) VISTA, Americorps, city year, the peace corps, or any similar program as determined by the Ohio board of regents; or
 - b) An elected or appointed public official for a period of time not exceeding twenty-four consecutive months.

C) Residency for subsidy and tuition surcharge purposes

The following persons shall be classified as residents of the state of Ohio for subsidy and tuition surcharge purposes:

- 1) A student whose spouse, or a dependent student, at least one of whose parents or legal guardian, has been a resident of the state of Ohio for all other legal purposes

for twelve consecutive months or more immediately preceding the enrollment of such student in an institution of higher education.

- 2) A person who has been a resident of Ohio for the purpose of this rule for at least twelve consecutive months immediately preceding his or her enrollment in an institution of higher education and who is not receiving, and has not directly or indirectly received in the preceding twelve consecutive months, financial support from persons or entities who are not residents of Ohio for all other legal purposes.
- 3) A dependent student of a parent or legal guardian, or the spouse of a person who, as of the first day of a term of enrollment, has accepted full-time, self-sustaining employment and established domicile in the state of Ohio for reasons other than gaining the benefit of favorable tuition rates. Documentation of full-time employment and domicile shall include both of the following documents:
 - a) A sworn statement from the employer or the employer's representative on the letterhead of the employer or the employer's representative certifying that the parent, legal guardian or spouse of the student is employed full-time in Ohio.
 - b) A copy of the lease under which the parent, legal guardian or spouse is the lessee and occupant of rented residential property in the state; a copy of the closing statement on residential real property located in Ohio of which the parent, legal guardian or spouse is the owner and occupant; or if the parent, legal guardian or spouse is not the lessee or owner of the residence in which he or she has established domicile, a letter from the owner of the residence certifying that the parent, legal guardian or spouse resides at that residence.

D) Additional criteria which may be considered in determining residency may include but are not limited to the following:

- 1) Criteria evidencing residency:
 - a) If a person is subject to tax liability under section 5747.02 of the Revised Code;
 - b) If a person qualifies to vote in Ohio;
 - c) If a person is eligible to receive Ohio public assistance;
 - d) If a person has an Ohio's driver's license and/or motor vehicle registration.
- 2) Criteria evidencing lack of residency
 - a) If a person is a resident of or intends to be a resident of another state or nation for the purpose of tax liability, voting, receipt of public assistance or student loan benefits (if the student qualified for that loan program by being a resident of that state or nation);
 - b) If a person is a resident or intends to be a resident of another state or nation for any purpose other than tax liability, voting, or receipt of public assistance (see paragraph (D)(2)(a) of this rule).
- 3) For the purpose of determining residency for tuition surcharge purposes at Ohio's state-assisted colleges and universities, an individual's immigration status will not preclude an individual from obtaining resident status if that individual has the current legal status to remain permanently in the United States.

E) Exceptions to the general rule of residency for subsidy and tuition surcharge purposes:

- 1) A person who is living and is gainfully employed on a full-time or part-time and self-sustaining basis in Ohio and who is pursuing a part-time program of instruction at an institution of higher education shall be considered a

resident of Ohio for these purposes.

- 2) A person who enters and currently remains upon active duty status in the United States military service while a resident of Ohio for all other legal purposes and his or her dependents shall be considered residents of Ohio for these purposes as long as Ohio remains the state of such person's domicile.
- 3) A person on active duty status in the United States military service who is stationed and resides in Ohio and his or her dependents shall be considered residents of Ohio for these purposes.
- 4) A person who is transferred by his employer beyond the territorial limits of the fifty states of the United States and the District of Columbia while a resident of Ohio for all other legal purposes and his or her dependents shall be considered residents of Ohio for these purposes as long as Ohio remains the state of such person's domicile as long as such person has fulfilled his or her tax liability to the state of Ohio for at least the tax year preceding enrollment.
- 5) A person who has been employed as a migrant worker in the state of Ohio and his or her dependents shall be considered a resident for these purposes provided such person has worked in Ohio at least four months during each of the three years preceding the proposed enrollment.
- 6) A person who was considered a resident under this rule at the time the person started a community service position as defined under this rule, and his or her spouse and dependents, shall be considered a residents of Ohio while in service and upon completion of service in the community service position.
- 7) A person who returns to the state of Ohio due to marital hardship, takes or has taken legal steps to end a marriage, and reestablishes financial dependence upon a parent or legal guardian (receives greater than fifty percent of his or her support from the parent or legal guardian), and his or her dependents shall be considered residents of Ohio.
- 8) A person who is a member of the Ohio National Guard and who is domiciled in Ohio, and his or her spouse and dependents, shall be considered residents of Ohio while the person is in Ohio National Guard service.

F) Procedures

- 1) A dependent person classified as a resident of Ohio for these purposes under the provisions of paragraph (C)(1) of this rule and who is enrolled in an institution of higher education when his or her parents or legal guardian removes their residency from the state of Ohio shall continue to be considered a resident during continuous full-time enrollment and until his or her completion of any one academic degree program.
- 2) In considering residency, removal of the student or the student's parents or legal guardian from Ohio shall not, during a period of twelve months following such removal, constitute relinquishment of Ohio residency status otherwise established under paragraph (C)(1) or (C)(2) of this rule.
- 3) For students who qualify for residency status under paragraph (C)(3) of this rule, residency status is lost immediately if the employed person upon whom resident student status was based accepts employment and establishes domicile outside Ohio less than twelve months after accepting employment and establishing domicile in Ohio.
- 4) Any person once classified as a nonresident, upon the completion of twelve consecutive months of residency, must apply to the institution he or she attends for reclassification as a resident of Ohio for these purposes if such person in fact wants to be reclassified as a resident.

Should such person present clear and convincing proof that no part of his or her financial support is or in the preceding twelve consecutive months has been provided directly or indirectly by persons or entities who are not residents of Ohio for all other legal purposes, such person shall be reclassified as a resident. Evidentiary determinations under this rule shall be made by the institution which may require, among other things, the submission of documentation regarding the sources of a student's actual financial support.

- 5) Any reclassification of a person who was once classified as a nonresident for these purposes shall have prospective application only from the date of such reclassification.
- 6) Any institution of higher education charged with reporting student enrollment to the Ohio board of regents for state subsidy purposes and assessing the tuition surcharge shall provide individual students with a fair and adequate opportunity to present proof of his or her Ohio residency for purposes of this rule. Such an institution may require the submission of affidavits and other documentary evidence which it may deem necessary to a full and complete determination under this rule.

HISTORY: Eff 12-29-77; 2-2-85; 3-2-90; 10-3-03

Rule promulgated under: RC 119.03

Rule authorized by: RC 3333.31, 3333.04

Rule amplifies: RC 3331.31, 5747.02

R.C. 119.032 review dates: 07/18/2003 and 10/03/2008

Senate Bill 53

Students who live in a contiguous state and who are employed in Ohio by a business, organization or government agency located in Ohio, may qualify for in-state tuition when the employer enters into a contract with Wright State University (or any state institution of higher education) to pay all of the student's tuition and fees directly to the institution without seeking reimbursement from the student in any manner. Students who wish to apply for residency under this rule should complete the residency application and submit an official letter from the employer verifying employment status and stating intent to enter into such a contract with Wright State University. Students who register for additional classes, which are not included in the employer's contract with the university, will be charged out-of-state fees for those classes.

Indiana Reciprocity Agreement

On June 17, 2004, the Ohio Board of Regents approved a Tuition Reciprocity Agreement with the Indiana Commission for Higher Education thereby waiving Ohio out-of-state tuition charges for Indiana residents from selected counties. Student who are residents of any of the following counties are encouraged to apply for in state tuition under the Tuition Reciprocity Agreement: Adams, Blackford, Delaware, Fayette, Franklin, Henry, Hay, Randolph, Rush, Union, Wayne, or Wells. Applications must be approved before the first day of the term.

Notice to Students

Privacy and Release of Student Educational Record Information

The Family Educational Rights and Privacy Act of 1974 (FERPA) as amended sets forth requirements designed to protect the privacy of student educational records. FERPA governs access to records maintained by educational institutions and the release of information from those records. This abbreviated document is provided as an overview of Wright State University's commitment to protect educational records for both the student and the institution. For additional information, please contact The Office of the Registrar, E244 Student Union, (937) 775-5588, fax (937) 775-5597; e-mail registrar@wright.edu.

Educational Records

Educational records are those records, files, documents, and other materials that contain information directly related to a student and are maintained by the university. Some records maintained are not educational records, such as those:

- by the Office of Public Safety for law enforcement purposes;
- by a physician, psychiatrist, psychologist, or other recognized professional, professional in training, or paraprofessional made, maintained, or used solely for the purpose of treatment or accommodation;
- records exclusively containing information about an individual after he or she is no longer a student.

Students are granted the right to inspect and review all of their educational records, with the exception of the financial records of parents and confidential letters and statements of recommendations covering certain years. Students may waive their right of access to confidential letters and statements of recommendation. Even if the student signs a waiver, upon request, the names of all persons making confidential recommendations will be made available. The university may not require a student to waive his or her right of access for receipt of university benefits or services.

Reviewing Records

Requests to review records must be made separately, in writing, to each office maintaining records. Within 15 days, and not to exceed 30 days, offices will respond to requests to review and inspect. Information contained in educational records will be fully explained and interpreted to students by university personnel.

Students have the right to challenge the content of their education records if they consider the information contained therein to be inaccurate, misleading, or inappropriate. Students challenging information in their records must submit, in writing, a request for a hearing to the director of the appropriate department, school, or college maintaining the record, listing the specific information in question and the reasons for the challenge.

In the event that the hearing panel denies a

student's request to change information within his or her record, an appeal may be made. All appeals shall be in writing, and submitted to the Registrar within 10 business days of the hearing decision. In the event that the appeal is denied, the student may choose to place a statement with the record commenting on the accuracy of the information in the record and/or setting forth any basis for inaccuracy. *Note:* The Schools of Medicine and Professional Psychology have separate procedures for challenging and adjudicating record disputes. Please refer to the individual school's student handbook for more information.

Public Information

Information identified as public information will be released without the student's consent. Public information is defined as the following:

- Student's name*
- All addresses including e-mail*
- Telephone listings*
- Major field of study
- Number of hours registered
- Full- or part-time status
- Class standing (freshman, sophomore, junior, senior, graduate, or professional)
- Dates of attendance
- Degrees awarded and total hours earned
- Special honors and awards
- Most recent previous educational agency or institution attended by the student
- Participation in officially recognized activities and sports
- Weight and height of members of athletic teams

*These items are included in the WSU telephone directory.

Students have the right, however, to have this information withheld from the public if they so desire. Each student who wants information withheld (including items to be published in the student directory) shall complete a "Request to Prevent Release of Public Information" form from the Office of the Registrar. Each student is advised to carefully consider the consequences of a decision to withhold public information (e.g., if a student is named to the dean's list, the university cannot make that information public). The university will not release information that is requested to be withheld; any requests from persons or organizations outside the university will be refused unless the student provides written consent for the release.

Public information status remains in effect until the student changes it, even after discontinuing attendance, upon graduation, or upon death.

The university receives many inquiries for "directory information" from a variety of sources, including friends, parents, relatives, prospective employers, other institutions of higher education, honor societies, licensing agencies, government agencies, and the news media. The university will not release information that is requested to be withheld, and any requests from persons or organizations outside the university will be refused unless the student provides written consent for the release.

The following are examples of when prior consent from a student is not needed. Consequently, the university will release this information in the following

instances:

- for requests from Wright State University employees who have a legitimate educational interest on a "need to know" basis;
- in compliance with a lawful subpoena or judicial order (only after an attempt is made to inform the student by the Office of General Counsel);
- for requests in connection with a student's application for or receipt of financial aid;
- for requests by state authorities and agencies specifically exempted from the prior consent requirements by the Act;
- for information submitted to accrediting organizations;
- for requests by parents of a dependent student, as defined in Section 152 of the Internal Revenue Code of 1954;
- in cases where a student who is under 21 years of age (at the time of notification) has committed a violation of law or university policy pertaining to drugs or alcohol;
- in cases where a student is found responsible for a violation of the university's Code of Student Conduct pertaining to an act of sexual or physical assault;
- in the case of emergencies where the health, welfare, or safety of the student is in jeopardy;
- to authorized federal officials;
- for information requested by officials of other institutions in which the student intends to enroll.

Note: Each fall quarter, the university publishes the telephone directory, which contains names, home and local addresses, e-mail addresses, and local telephone numbers. To keep information from being printed in the directory, a student must notify the Office of the Registrar (in the manner described above) no later than the first Friday after the start of the fall quarter. Because the directory is published only once a year, requests to change a student's information release status after the first Friday of fall quarter (or in subsequent quarters), will not be reflected in the printed directory. However, changes will be applied to public information within the student information system.

Equal Opportunity/Affirmative Action Policy

Wright State University is committed to achieving full equal opportunity in all aspects of university life. We are proud of the diversity of the university community and strive to make all members of the community feel welcome.

The policy of Wright State University is to not discriminate against any persons on the basis of race, religion, color, sex, sexual orientation, disability, veteran status, national origin, age, or ancestry. In addition, we take affirmative action to recruit and assist members of various racial or ethnic groups, women, Vietnam-era veterans, and persons with disabilities whose ability to achieve academic success might otherwise be unrecognized because of cultural barriers. Our policy is fully consistent with the various federal and Ohio statutes which prohibit discrimination.

Any questions or comments about the university's policy, and any complaint about perceived discrimination, may be directed to the director of Affirmative Action Programs, 436 Millett Hall, (937) 775-3207.

The university's Affirmative Action Plan is maintained in the Office of Affirmative Action Programs. Wright State is a public institution, and accessible to any member of the public.

In addition, Wright State University is a national leader in accommodating the needs of students with disabilities. Any questions or comments concerning a needed accommodation may be directed to the director of Disability Services, E186 Student Union, (937) 775-5680.

Accreditation and Memberships

Wright State is accredited by the North Central Association of Colleges and Schools. Also, programs in the College of Education and Human Services are approved by the Ohio Department of Education and accredited by the National Council for Accreditation of Teacher Education, our music programs are accredited by the National Association of Schools of Music, business programs by AACSB — The International Association for Management Education, geological sciences by the American Institute of Professional Geologists, Professional Psychology's clinical psychology and internship programs by the American Psychological Association Committee on Accreditation, social work by the Council on Social Work Education, environmental health by the National Environmental Health and Protection Accreditation Council, medical technology by the Committee on Allied Health Education and Accreditation and the National Accrediting Agency for Clinical Laboratory Scientists, medicine by the Liaison Committee on Medical Education, the College of Engineering and Computer Science's biomedical engineering, computer engineering, computer science, electrical engineering, engineering physics, human factors engineering, industrial and systems engineering, materials science and engineering, and mechanical engineering programs by the Accreditation Board for Engineering and Technology, Inc., and the College of Nursing and Health by the Commission of Collegiate Nursing Education and the Ohio Board of Nursing. In addition, the Bachelor of Science program in chemistry is certified by the American Chemical Society, and the Wright State University Lake Campus is accredited by the North Central Association of Colleges and Schools at the associate degree-granting level. Professional Accreditation Agencies (1) Council for Accreditation of Counseling and Related Educational Programs, (2) Council on Rehabilitation Education, Inc.

Wright State holds membership in numerous organizations, including the National Network for Educational Renewal, American Association of Colleges for Teacher Education, American Council of Learned Societies and National Association of

State Universities and Land Grant Colleges, the Midwestern Association of Graduate Schools, the Council of Graduate Schools, the Ohio College Association, the Association of Urban Universities, the American Association of State Colleges and Universities, the American Council on Education, the American Association of Colleges, the American Association of Colleges of Nursing, the Council of Baccalaureate and Higher Degree Programs of the National League for Nursing, the American Association of Engineering Societies, the American Society for Engineering Education, and the National Society of Professional Engineers.

Wright State participates in many kinds of cooperative ventures with local colleges, universities, and institutions. The College of Engineering and Computer Science participates in the Dayton Area Graduate Studies Institute (DAGSI), a unique partnership between the University of Dayton, a private institution; Wright State University, a state-supported institution; and the Air Force Institute of Technology (AFIT), a federal institution. The primary long-term goal of DAGSI is to become a world-class graduate and post-graduate research institute. Through the Southwestern Ohio Council for Higher Education, Wright State students may take courses at member institutions and also take advantage of their library facilities. The School of Medicine has cooperative arrangements with Central State and Miami Universities. Various academic centers serve both the university and the metropolitan community by providing training for students and services to the community. The Center for Labor-Management Cooperation provides outreach and in-plant support of economic development goals, retaining and expanding jobs in Ohio, and improving quality, safety, and productivity of unionized organizations. The Center for Ground Water Management provides education, research, and service activities to address problems associated with protecting ground water resources. The Women's Center provides resources and support to women from the campus community and the surrounding area. The Center for Healthy Communities is a community-academic partnership that includes WSU's Schools of Medicine and Professional Psychology, the College of Nursing and Health, and the Department of Social Work; Sinclair Community College; and the Dayton community. Its mission is to improve the health of the community, educate its health professionals, and serve as a force for change. The Center for Urban and Public Affairs (CUPA) is part of the Urban University Program, a unique network of eight urban universities funded by the Ohio Board of Regents. CUPA addresses urban problems and proposes solutions to improve Ohio's urban regions and central cities. Together and separately, the urban universities implement their mission through research, technical assistance, and service. The Statistical Consulting Center provides help free of charge to faculty, staff, and graduate students with the collection, analysis,

interpretation, and management of research data and to the community-at-large for a fee. The Center for Teaching and Learning supports WSU's commitment to excellence in teaching by assisting teaching staff in teaching effectiveness and student learning. The Institute for Environmental Quality recognizes the importance of student environmental awareness at all levels, overseeing the environmental courses, programs, and research that serve our diverse student interests. In addition, the Sanders Judaic Studies Program, providing scholarship and teaching in the field of Judaic studies, is made possible through the cooperative effort of Wright State, United Theological Seminary, and the University of Dayton.

Wright State University Report on the Quality of Teacher Preparation

Academic Year 2005–2006

Testing Period: 9/1/2005–8/31/2006

Provided in compliance with the requirements of the

Title II Higher Education Act.

College of Education and Human Services

Teacher Preparation: The College of Education and Human Services (CEHS) offers more than 50 majors in pre-K–12 education leading to provisional licensure in Ohio. Master's degrees are offered in many areas of specialization, an Ed.S. program in school administration, a school counseling program, and a postbaccalaureate program for licensure candidates who wish to practice the art and science of teaching in the classroom for an entire school year.

Student Characteristics: The College of Education and Human Services has a total enrollment of 2,389 students; 46 percent are enrolled in graduate programs. The majority of students are female, "nontraditional" age, commuter students. The average undergraduate grade-point average (GPA) of a student admitted to a teacher education program was 3.22, with the average GPA for admitted graduate students at 3.41.

Admission Requirements

Undergraduate admission requirements include the completion of 45 quarter hours with a minimum 2.5 grade-point average, a writing sample, and an interview with a faculty advisor. Undergraduates must also demonstrate successful scores on the Praxis I basic skills test in reading, writing, and mathematics. In addition to the formal application

process described above, requirements for admission to a graduate program include a 2.7 grade-point average and successful scores on the content area, Praxis II specialty area exam(s).

State Approval and Accreditation

The Teacher Preparation Program at Wright State University is approved by the Ohio Department of Education and is accredited by the National Council for Accreditation of Teacher Education (NCATE).

Special Features and Notable Accomplishments

- Wright State education graduates have been named Ohio Teacher of the Year in four of the last 13 years. Recognition at state and national levels includes three recipients of the Christa McAuliffe Fellowship, the Ohio Governor's Leadership Award, Ohio Department of Education Family Partnership Award, Disney's American Teacher Award, the Milken Family Foundation National Educator Award, and the Presidential Award for Excellence in Science Teaching.
- Thirteen WSU faculty hold joint appointments between the Colleges of Education and Human Services, Liberal Arts, and Science and Mathematics. This collaboration has contributed to: the nationally recognized Creating Laboratory Access for Students in Science (C.L.A.S.S.) Project, a unique program designed to bring together teachers and students with disabilities and demonstrate how teachers can adapt science classes for students with special needs; regional initiatives designed to provide opportunities for the educational community to work together to address concerns related to the teaching and learning of science and mathematics in Ohio such as the Model Schools Science and Mathematics Initiative, the West Ohio EXCEL Center for Excellence in Science and Mathematics Education, and Project SUSTAIN;
- WSU's unique partnerships, which have contributed to our ability to increase the subject matter knowledge and teaching skills of mathematics and science teachers through our participation in the Mathematics and Science Partnerships Program and its Ohio Mathematics Academy Program (OMAP) and Ohio Science Institute (OSI); our ability to develop alternative teacher licensure programs for mid-career professionals in cooperation with the Montgomery and Clark County Educational Service Centers (OCALP and CORE II);
- WSU collaborates with schools, community colleges, and human service agencies in the Miami Valley as part of the Diversity in Teaching and Teacher Education Initiative. Program Information
- The average undergraduate GPA of a student admitted to a teacher preparation program was 3.22.
- The average graduate GPA of a student admitted to a teacher preparation program was 3.41.
- In reporting year 2002–2003, 363 students completed a teacher preparation program and took one or more required exams.
- The total number of newly admitted students into initial teacher preparation programs, all specializations, in reporting year 2002–2003 was 775.
- The total enrollment in all of our teacher education programs, regardless of academic standing, was 1,247.
- The total number of students in supervised student teaching was 423.
- The data below is information on the number of faculty in professional education:
 - 24 were full-time faculty in professional education.
 - 15 were part-time faculty in education but full time at WSU.
 - 19 were part-time faculty in education and not otherwise employed at WSU.
- The total number of supervising faculty for student teachers during 2005–2006 was 54.
- The student/faculty ratio in supervised student teaching was 8 to 1.
- The average hours per week required in student teaching was 30.
- The total number of weeks required in student teaching was 11.
- The average number of hours required in student teaching was 330.

HEA–Title II 2005–2006 Academic Year

Institution Name: **Wright State University** Institution Code: **1179** Number of Program Completers Submitted: **363**
State: **Ohio** Number of Program Completers Found, Matched, and Used in Passing Rate Calculations¹: **363**

Type of Assessment ¹	Assessment Code Number	Number Taking Assessment	Number Passing Assessment	Institutional Pass Rate	Statewide Pass Rate	National Pass Rate ²
Professional Knowledge						
Principles of Learning & Teaching Early Child.	521	136	135	99%	99%	
Principles of Learning & Teaching K–6	522	7			97%	74%
Principles of Learning & Teaching 5–9	523	79	74	94%	97%	64%
Principles of Learning & Teaching 7–12	524	123	117	95%	97%	80%
Academic Content Areas						
Early Childhood Education	020	8			98%	85%
Education of Young Children	021	135	135	100%	98%	94%
English Lang Lit Comp Content Knowledge	041	17	17	100%	98%	70%
Middle School Language Arts	049	30	30	100%	98%	85%
Mathematics: Content Knowledge	061	5			98%	60%
Middle School Mathematics	069	34	34	100%	98%	85%
Middle School Science	439	22	22	100%	98%	79%
Middle School Social Studies	089	42	41	98%	98%	78%
Social Studies: Content Knowledge	081	20	20	100%	98%	72%
Physical Ed: Content Knowledge	091	19	16	84%	98%	62%
Business Education	100	11	11	100%	98%	77%
Music Content Knowledge	113	16	16	100%	98%	81%
Art Content Knowledge	133	7			98%	86%
French Content Knowledge	173	3			98%	82%
Spanish Content Knowledge	191	4			98%	79%
Biology Content Knowledge	235	3			98%	74%
Chemistry Content Knowledge	245	1			95%	69%
Other Content Areas						
Library/Media Specialist	310	2				91%
Health Education	550	20	20	100%	100%	100%
Marketing Education	560	1			100%	100%
Teaching Special Populations						
SE Knowledge-Based Core Principles	351	38	38	100%	97%	77%

1 The number of program completers found, matched, and used in the passing rate calculation will not equal the sum of the column labeled "Number Taking Assessment" since a completer can take more than one assessment.
2 The national passing rate is calculated at Ohio's cut scores, which are among the highest in the nation. For instance, Ohio requires the highest cut score in Principles of Learning and Teaching 5–9 (middle childhood) and ranks second in Principles of Learning and Teaching in K–6 and 7–12 (adolescent/young adult).

Type of Assessment ³	Number Taking Assessment ⁴	Number Passing Assessment ⁵	Institutional Pass Rate	Statewide Pass Rate
Aggregate—Professional Knowledge	345	333	97%	97%
Aggregate—Academic Content Areas (Math, English, Biology, etc.)	376	372	99%	98%
Aggregate—Other Content Areas (Career/Technical Education, Health Educations, etc.)	23	23	100%	100%
Aggregate—Teaching Special Populations (Special Education, ELS, etc.)	38	38	100%	97%
Aggregate—Performance Assessments				
Summary Totals and Pass Rates⁶	359	347	97%	95%

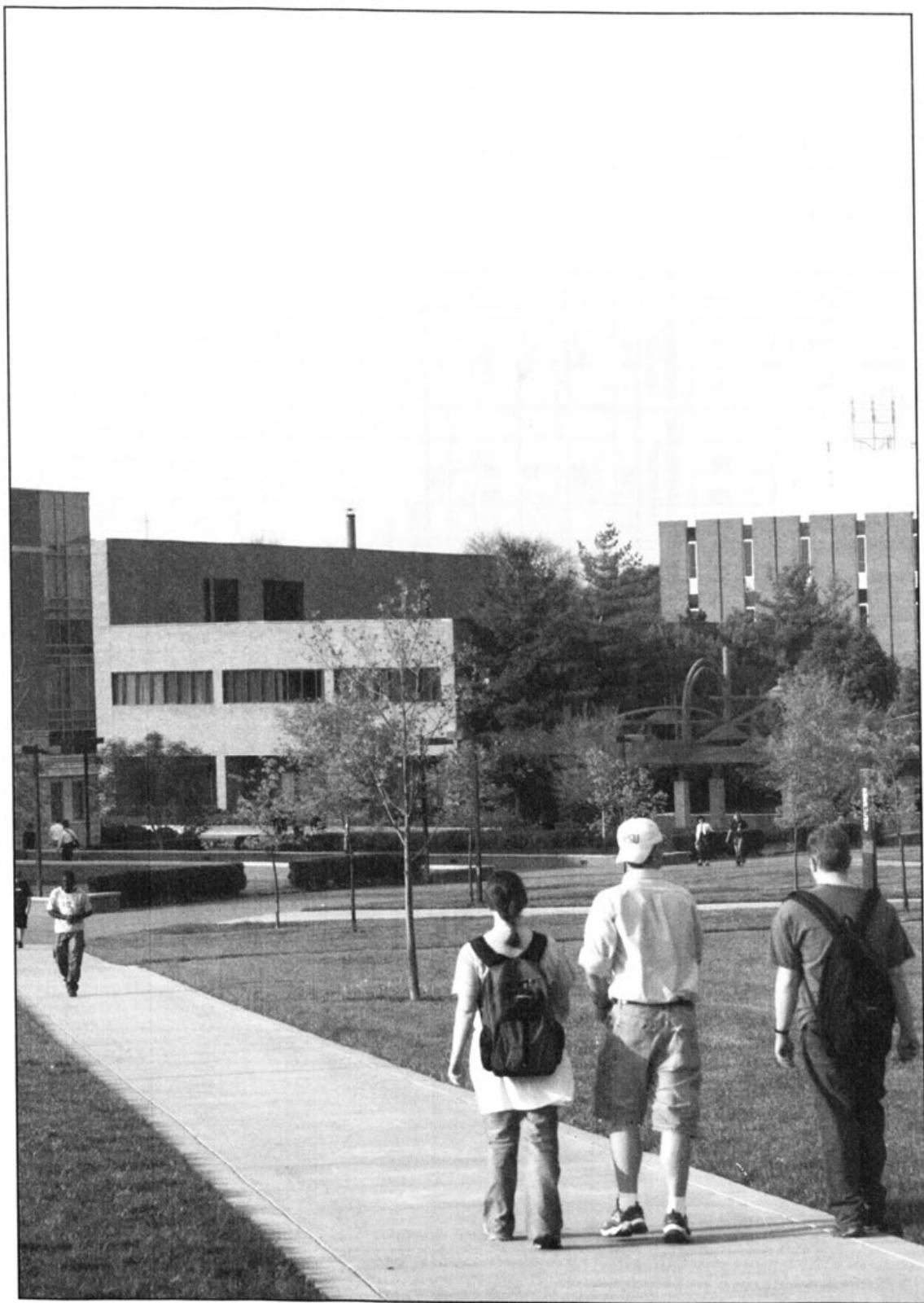
³ Institutions and/or states did not require the assessments within an aggregate where data cells are blank.

⁴ Number of completers who took one or more tests in a category and within their area of specialization.

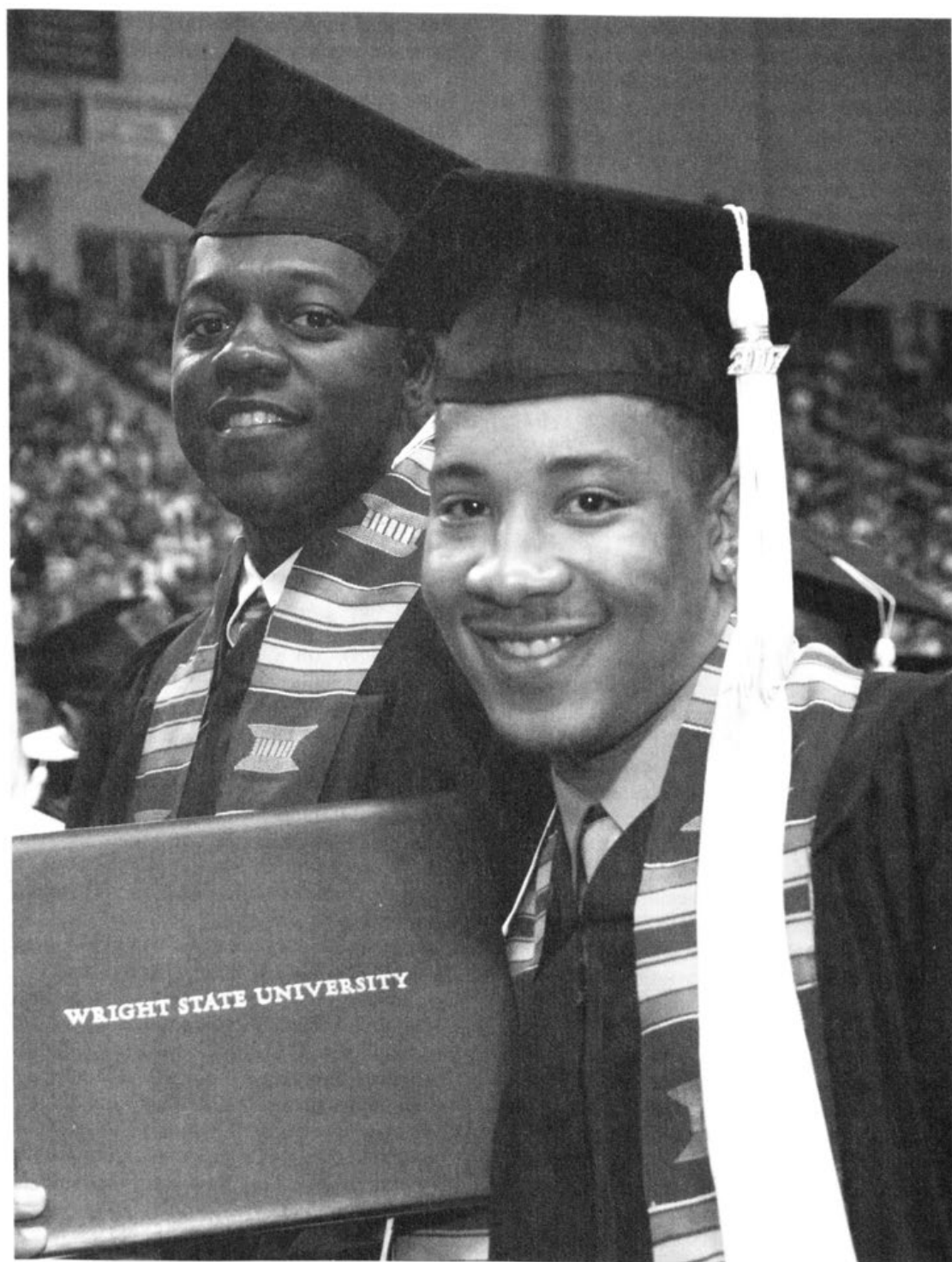
⁵ Number who passed all tests they took in a category and within their area of specialization.

⁶ Summary Totals and Pass Rate.

If no assessments are reported, the type of Assessment has been removed from this table.



INDEX



- Abbreviations used in course listings, 214
- Academic Advising and Transfer Services, 64
- Academic calendar, 7
- Academic programs, 15; alternative, 19
- Academic: advising, 64; assistance services, 44; standards and requirements, 49; standing, 53
- Accountancy, 76
- Accreditations
- Acting, 152
- Activities, co-curricular, 29
- Admission, advising, and registration, 33
- Admission: program requirements summarized, 69
- Admission standards and requirements, 47
See also individual colleges
- Adult and Transfer Services, 62
- Advising: academic, 64. *See also* individual colleges
- Advising and registration (SOAR), summer on-campus, 66
- Affirmative action policy
- African and African American Studies, 123
- Aim Statement, University, 10
- Allied Health Programs, 171
- Alternative academic programs, 19
- Anthropology. *See* Sociology and Anthropology
- Appendix, 397
- Applying for degrees, 52
- Archives and Special Collections. *See* Dunbar Library
- Areas of study, 16
- Art and Art History, 124
- Art Education. *See* Art and Art History
- Asian, Hispanic, and Native American Center, 28
- Associate degrees. *See* Lake campus, 198; technical course descriptions, 347
- Athletic Training, 94
- Athletics, 30
- Auditing courses, 54
- Bachelor's degrees, list of, 16; university's requirements for, 50. *See also* individual colleges and degree programs
- Biochemistry and Molecular Biology, 171
- Bioinformatics, 105, 173
- Biological Sciences, 172
- Biological Sciences Education, 177
- Biomedical Engineering, 104
- Biophysics, 191
- Board of Trustees, 368
- Bolinga Black Cultural Resources Center, 28
- Bookstore. *See* Student Union
- Boonshoft School of Medicine, 19
- Branch campus. *See* Wright State University—Lake Campus
- Bursar, 47
- Business. *See* Raj Soin College of Business
- Business Core requirements, 75
- Business Education: Integrated, 94
- Business Economics, 77
- Calendar, academic, 7
- Campus housing, 13, 29
- Campus map, inside back cover
- Campus Recreation, Office of, 29
- Career and Technical Education, 100
- Career Services, 27
- Certificate programs, 18:
 - cartography, photogrammetry, and remote sensing, 157; computer aided drafting (CAD) (at Lake Campus), 211; desktop publishing (at Lake Campus), 211; gerontology, 147; graphics/design (at Lake Campus), 212; management (at Lake Campus), 211; micro-computer applications (at Lake Campus), 211; object-oriented programming, 107; PhotoShop design and applications (at Lake Campus), 208; professional writing, 130; software applications (at Lake Campus), 208; teaching English as a foreign language, 130; teaching English to speakers of other languages (TESOL), 130; technical writing, 130; women's studies, 159; word processing (at Lake Campus), 207
- Certification, teaching, 40
- Chemistry, 178
- Choosing courses and majors, 66
- Class rank, 53
- Classics, 126
- Clinical Laboratory Science, 175
- Co-curricular activities, 29
- College Work-Study Program, 46
- Communication, 127
- Computer Engineering, 105
- Computer resources, 24
- Computer Science, 107
- Consortium, 22
- Cooperative Education, 22. *See also* individual degree programs
- Counseling and Wellness Services, 27

- Counseling, academic. *See* academic advising
 Counseling, career. *See* Career Services
 Counseling, personal, 27
 Course: audit policy, 54; descriptions, 213 (for specific page numbers, see abbreviations and page numbers for course descriptions, 214); drops, 52; numbering system, 215; repeat, 54
 Courses: choosing, 66; English, 67; first-year, 67; math, 67; writing intensive, 67; required to enter a major, 67
 Course descriptions, 213
 Course registration tools, 67
 Credit by examination. *See* placement testing
 Criminal Justice, 129
 Criteria for Ohio residency, 398
 Cultural activities, 30
- Dance, 152
 Dean's list, 53
 Deficiency, academic, 34
 Degree application deadlines. *See* applying for degrees
 Degree-seeking students, 34
 Degrees: applying for, 52; offered at university, 16; university requirements for, 50. *See also* individual colleges and degree programs
 Design/Technology/Stage Management, 156
 Developmental Education, 65
 Dining Services, 29
 Disability Services, Office of, 26
 Dismissal from university, 55
 Diversity Statement, 10
 Dropping of courses, 52
 Dual majors: Biological Sciences, 173; Mathematics, 185; Physics and Mathematics, 194. *See also* interdisciplinary study
 Dunbar Library, 23
- Early Childhood Education Pre-K–3 Program, 95
 Earth and Environmental Sciences, 181
 Earth Sciences/Chemistry Licensure Program (Chemistry Education), 180
 Earth Sciences/Physics Licensure Program (Physics Education), 189
 Economics (Business), 77
 Economics (Liberal Arts), 130
- Education and Human Services, College of, 16, 83: admissions, retention, and advising, 85; degrees and areas of study, 90; Honors Program, 92; recommendation for licensure, 92; student organizations, 93
 Education Programs: Athletic Training, 94; Biological Sciences Education, 177; Business Education: Integrated, 94; Chemistry Education, 180; Early Childhood Education Pre-K–3 Program, 95; Earth and Space Sciences Licensure Programs (Earth Sciences Education), 179; Earth Sciences/Chemistry Licensure Programs (Earth Sciences Education), 180; Earth Sciences/Physics Licensure Program (Physics Education), 189; Earth Sciences Education, 179; Health and Physical Education Multi-Age, 96; Integrated Language Arts/English Education, 132; Integrated Mathematics Education, 187; Integrated Sciences Education, 184; Life Sciences/Chemistry Licensure Program (Biological Sciences Education), 177; Life Sciences/Earth Sciences Licensure Programs (Earth Sciences Education), 180; Life Sciences Licensure Program (Biological Sciences Education), 173; Life Sciences/Physics Licensure Program (Physics Education), 188; Marketing Education, 96; Middle Childhood Education, 97; Music Education, 142; Organizational Leadership, 98; Physical Sciences Licensure Program (Physics Education), 192; Physics Education, 192; Social Science Education, 149; Career and Technical Education, 100
 Electrical Engineering, 111
 Employment, student, 46. *See also* Career Services
 Engineering: Biomedical, 104; Computer Engineering, 105; Electrical Engineering, 111; Engineering Physics, 113; Industrial and Systems Engineering, 114; Mechanical and Materials Engineering, 115
 Engineering and Computer Science, College of, 17, 101: admission and advising, 102; Co-operative Education, 102; degrees and areas of study, 103; Honors Program, 103; student organizations, 104
 Engineering Physics, 113
 English courses, 67
 English Education. *See* Integrated Language Arts/English Education

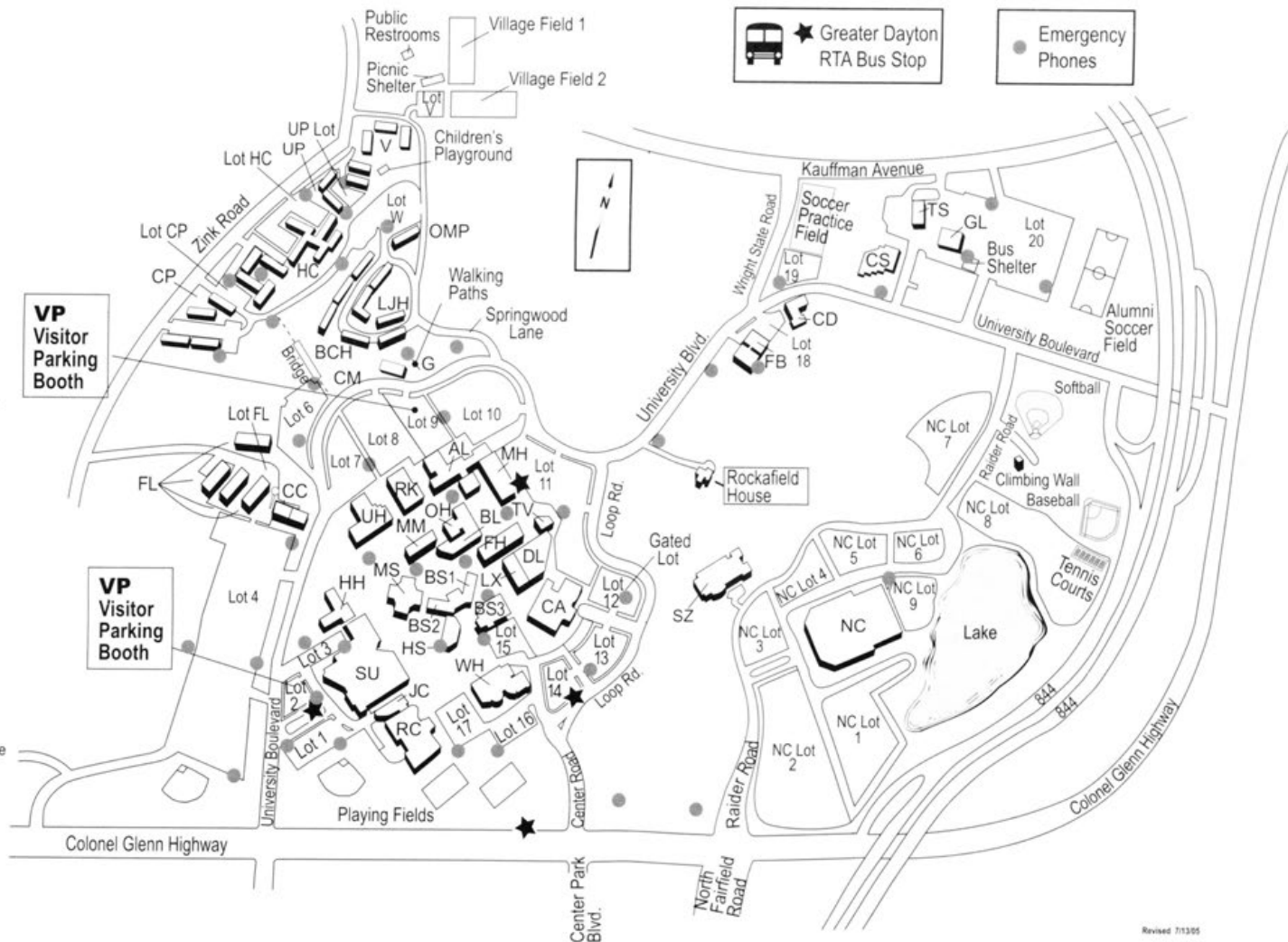
- English Language and Literatures, 130
- Enrollment, New Students, 66
- Equal opportunity/affirmative action policy, 401
- Ethics Statement, University, 10
- Exchange programs, 22
- Executive Officers, 368
- Exercise Biology, 173
- Facilities**, 29
- Faculty: listing, 369; officers, 396
- Family Educational Rights and Privacy Act of 1974, 400
- Fees: paying, 47
- First year courses, 67
- First year experience, 65
- Finance and Financial Services, 77
- Financial aid, 40
- Fordham Health Sciences Library, 23
- Foreign language requirement in Liberal Arts, 122
- Foreign study programs, 22
- French, 138
- French Education. *See* Modern Languages
- General education**, 57: Honors sections, 58; requirements, 58; substitutions, 58; Writing Across the Curriculum, 58; program areas I–VI, 59
- General Science Education. *See* Integrated Science Education
- Geography. *See* Urban Affairs and Geography
- German, 138
- Global Gender Studies track, 163
- Good standing, 54
- Government, student. *See* Organizations, student
- Grading system, 52
- Graduate Studies, School of, 18
- Graduation requirements. *See* individual colleges
- Graduation with Latin honors, 51
- Grants, 46
- Greek, 126
- Handicapped student services**. *See* Disability Services, Office of
- Health and Physical Education Multi-Age, 96
- Health services for students, 27
- High school students: college preparation for, 34; taking courses at Wright State while still in high school, 40
- History Education. *See* Social Science Education
- History, 134
- Honors Program, University, 19. *See also* colleges and individual degree programs
- Honors, graduation with Latin, 51
- Housing, campus, 13, 29
- Human Resource Management, 80
- Important phone numbers**, inside front cover, 48
- Industrial and Systems Engineering, 114
- Information Systems and Operations Management, 78
- Insurance. *See* Finance and Financial Services
- Integrated Business Education, 96
- Integrated Language Arts/English Education, 132
- Integrated Mathematics Education, 187
- Integrated Science Education, 184
- Interdisciplinary study, 22
- International Business, 80
- International Education, University Center for, 26
- International students, 26, 38
- International Studies, 135
- Lake Campus**, Wright State University, 13, 16, 197: academic programs, 204; Certificate Programs, 211; services, 202; student organizations and activities, 203; Technical Associate Degree Programs, 208
- Languages. *See* Classics; Modern Languages
- Latin, 127
- Latin honors, graduating with, 51
- Learning Communities, 66
- Learning English for Academic and Professional Purposes (LEAP), 23
- Legal Services for Students, 27
- Liberal Arts, College of, 17, 119: admissions and advising, 120; degrees and areas of study, 121; Honors Program, 122; interdisciplinary study, 121; minors, 122; student organizations, 123; teacher licensure, 123
- Liberal Studies, 136
- Libraries, University, 23
- Library: Fordham Health Sciences, 23; Paul Laurence Dunbar, 23; Services, 24
- Licensure: school nursing, 93; teaching, 40, 92; in Liberal Arts, 123; in Science and mathematics, 192. *See also* Education Programs and appropriate departments.

- Loans, 46
- Majors, 16; deciding on, 67; entering, 67; exploring, 69
- Management, 80
- Marketing, 81
- Marketing Education, 96
- Master's degrees offered at university, 18
- Materials Science and Engineering, 116
- Math courses, 67
- Mathematics and Statistics, 185; sequences, 68
- Mathematics Education, 187
- Mathematics Learning Center, 65
- Mechanical and Materials Engineering, 111
- Mechanical Engineering, 115
- Media, student. *See* Organizations, student
- Medicine. *See* Boonshoft School of
- Meeting with an Advisor, 66
- Memberships, university, 401
- Middle Childhood Education, 97
- Minors, 16. *See also* appropriate departments.
- Mission statement, University, 10
- Model U.N. Program, 31
- Modern Languages Education. *See* Modern Languages
- Modern Languages, 137
- Motion Pictures, 153
- Music, 30, 140; extracurricular, 30; history and literature, 143; honors, 140; music education, 142; performance, 141
- Music Education, 142
- Musical Theatre, 155
- New Students' Enrollment, 66
- Nondegree undergraduate students, 40
- Notice to Students, 400
- Nursing, 165
- Nursing and Health, Wright State University–Miami Valley College of, 18, 165; admissions and advising, 166; degree requirements, 167; honors, 168; student organizations, 167
- Officer training/ROTC, 21
- Ohio residency, criteria for, 398
- Operations Management, 78
- Organizations, student, 30
- Organizational Leadership, 98, 204
- Parking and Transportation, 28
- Partnerships, WSU's community, 13
- Paul Laurence Dunbar Library, 23
- Paying fees, 47
- Performing arts. *See* Cultural Activities; Dance; Music; Theatre Arts
- Petitions: for admission by transfer students, 35; for exceptions to scholastic regulations, 54; readmission after dismissal, 55
- Philosophy, 144
- Phone numbers, inside front cover, 48
- Physics, 190
- Physics Education, 193
- Physiology/Biophysics, 192
- Placement testing, 65
- Police, Wright State University, 28
- Policies, scholastic, 52
- Political Science, 145
- Prelaw study, 21
- Premedical and pre dental study, 20
- Preprofessional programs, 20
- Privacy and Release of Student Educational Record Information, 400
- Probation, 54
- Professional Psychology, School of, 19
- Program admission requirements, 69
- Psychology, 194
- Psychology/Sociology Education. *See* Social Science Education
- Quality of Teacher Preparation, Report on, 402
- Quarter system. *See* Scholastic Policies
- Radio station, student, 30
- Raj Soin College of Business, 16, 71: admissions and advising, 72; degrees and areas of study, 73; departments/major programs, 75; graduation requirements, 73; Honors Program, 74; student organizations, 74
- Rank, class, 53
- Readmission after dismissal, 55
- Registration, 46
- Rehabilitation Services, 99
- Religion, 147
- Repeating courses, 54
- Report on the Quality of Teacher Preparation, 402
- Requirements for a bachelor's degree, 50
- Research methods requirement in Liberal Arts, 122
- Residence halls. *See* campus housing
- Residence requirements for graduation, 50
- Residency, Ohio, rules governing, 398
- Returning students, 40

- ROTC Program, 21
- Scholarships, 41
- Scholastic policies, 52
- School Nurse Licensure Program, 93
- Science and Mathematics, College of, 17, 169:
 - admissions and advising, 170; degrees and areas of study, 170; education programs, 192
- Sciences Education: Integrated, 184
- Second degrees, 51
- Selected Studies, 148
- Services and office phone numbers, 48
- SOAR, Summer On-Campus Advising and Registration, 66
- Social Science Education, 149
- Social Work, 149
- Sociology and Anthropology, 150
- Southwestern Ohio Council for Higher Education. *See* consortium
- Spanish, 139
- Special Collections and Archives. *See* Dunbar Library.
- Sports, 30
- Stage management. *See* theatre Arts.
- Statistics. *See* Mathematics and Statistics
- Student activities and organizations, 30
- Student classification, 53
- Student employment, 46
- Student exchange and study abroad, 22
- Student Health Services, 27
- Student Legal Services, 27
- Student life, 12, 25
- Student services, 26; summary of phone numbers, 48
- Students: nondegree undergraduate, 40; returning, 40; high school, 40; transfer, 41
- Student Union, 29
- Study: abroad, 22; areas of, 16; interdisciplinary, 22
- Summer On-Campus Advising and Registration (SOAR), 66
- Teacher education. *See* Education and Human Services, College of
- Teacher certification candidates, 40. *See also* Education and Human Services, College of
- Teacher Preparation, Report on Quality of, 402
- Technical associate degree programs, 208
- Technical course descriptions, 347. For specific page numbers, see abbreviations and page numbers for course descriptions, 214
- TESOL: (Teaching English to Speakers of Other Languages). *See* English Language and Literatures
- Testing for placement, 65
- Theatre, Dance, and Motion Picture, 152:
 - Acting and Acting-Musical Theatre, 155;
 - Dance, 152; Design/Technology/Stage Management, 156; Motion Pictures, 153;
 - Motion Picture History, Theory, and Criticism, 154; Motion Picture Production, 154; Theatre Studies, 156
- Transcripts: freshman, 34; required of returning students, 40; required of transfer students, 35
- Transfer credit, 35
- Transfer module, 38
- Transfer students, 41
- Tutoring Services, 65
- Undecided students, 67; first-year schedule for, 69
- University Aim Statement, 10
- University College, 18, 63
- University Ethics Statement, 10
- University Honors Program, 19
- University: description, 11; officers, 368
- University officers, 368
- Urban Affairs and Geography, 157
- Veterans: Affairs, Office of, 27
- Visual Arts Education. *See* Art and Art History
- Withdrawing from university, 54
- Women's Center, 28
- Women's Studies, 161
- Work-Study Program, 46
- WrightI Cards, 48
- Wright Brothers collection. *See* Dunbar Library
- Wright State today, 11
- Writing Across the Curriculum, 50, 53, 67; in General Education, 58
- Writing assistance, 65
- Writing Intensive (WI) courses, 50, 53, 58, 67
 See also Writing Across the Curriculum

Buildings

AL	Allyn Hall
BS1	Biological Sciences I
BS2	Biological Sciences II
BS3	Biological Sciences III
BCH	Boston/Cedar/Hawthorn
BL	Brehm Laboratory
CC	Community Center
CM	Campus Ministry Center
CS	Campus Services Building
CD	Child Development Center
CP	College Park Apartments
CA	Creative Arts Center
DL	Dunbar Library, Paul Laurence
FH	Fawcett Hall
FB	Fine Arts Building
FL	Forest Lane Apartments
G	Garden for the Senses
GL	Geology Field Equipment Base
HH	Hamilton Hall
HC	Honors Community
HS	Health Sciences
JC	Joshi Research Center
LJH	Laurel/Jacob/Hickory
LX	Library Annex
MM	Mathematical and Microbiological Sciences
MS	Medical Sciences
MH	Millett Hall
NC	Nutter Center, Ervin J.
OMP	Oak/Maple/Pine
OH	Oelman Hall
RK	Rike Hall
RC	Russ Engineering Center,
SU	Student Union
SZ	Setzer Pavilion/Mills-Morgan Ce
TV	Television Center
TS	Transportation Services Center
UH	University Hall
UP	University Park Apartments
V	The Village Apartments
VP	Visitor Parking Booth
WH	White Hall





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